



**ELECTRONIC DATA INTERCHANGE (EDI)**

**410  
RAIL CARRIER  
FREIGHT DETAILS AND INVOICE**

**USING  
ASC X12 TRANSACTION SET 410  
VERSION 004010**

**10/12/99**

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## ***Introduction***

Transaction Set 410: Rail Carrier Freight Details and Invoice  
Functional Group: IR

This Draft Standard for Trial Use contains the format and establishes the data contents of the Rail Carrier Freight Details and Invoice Transaction Set (410) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to provide detailed information of charges associated with a rail movement. The information is provided by a rail carrier and is sent to the freight payer.

**A EDI 997 functional acknowledgement and 824 application acknowledgement are required for this transaction set. If your company is unable to send an 824 application acknowledgement, an email or fax indicating only the freight bills that were rejected from your application will suffice. Your implementation specialist will provide you with the correct email address or fax number during the testing phase of your 410 implementation.**

Burlington Northern Santa Fe will submit the Rail Carrier Freight Details and Invoice as published by DISA for ASC X12. The following guidelines are all-inclusive and identify unique requirements for use of the ASC X12 410 transaction set.

To obtain X12 standards and documentation, contact:

Data Interchange Standards Association, Inc.  
1800 Diagonal Road, Suite 355  
Alexandria, VA 22314-2840  
703-548-7005

Or:

Washington Publishing Company  
Orders: 800-972-4334  
Phone: 301-590-9337  
[www.wpc-edi.com](http://www.wpc-edi.com)

## Sample 410

### Carload

GS\*IR\*BNSF\*RECEIVER ID\*20000101\*0032\*46480\*X\*004010  
ST\*410\*464800001  
B3B\*18064947\*PP\*19991005\*102000\*19991020\*BNSF\*R\*558760\*\*\*USD  
N9\*BM\*558760\*\*19991001  
N7\*NW\*178483\*100129\*N\*65100\*\*\*\*\*RR\*\*\*\*\*A\*\*\*\*\*C113  
N8\*382408\*19991001  
F9\*92007\*ST LOUIS\*MO\*\*\*\*\*567500  
D9\*92239\*SPRINGFIELD\*MO\*\*\*\*\*576550  
N1\*SH\*SHIPPER NAME  
N4\*ST LOUIS\*MO  
N1\*CN\*CONSIGNEE NAME  
N4\*SPRINGFIELD\*MO  
R2\*BNSF\*S\*\*\*\*R  
LX\*1  
L5\*1\*WHEAT GRAIN MILL FEED, OTHER THAN PELLETIZED, VI\*2041290\*T  
L5\*1\*WHT MIDS GRM W  
L0\*1\*\*\*100129\*N\*1\*R\*1\*CLD  
L1\*1\*1000\*PC\*100000\*\*100000\*\*\*\*\*USD  
PI\*TS\*0000004022\*\*\*BNSF\*BNSF\*\*0000052360  
L3\*\*\*\*\*102000\*\*102000  
SE\*20\*464800001

### Intermodal

GS\*IR\*BNSF\*RECEIVER NAME\*20000101\*0031\*3296\*X\*004010  
ST\*410\*135683  
B3B\*18071803\*PP\*19991005\*130000\*19991020\*BNSF\*R\*2950000\*\*\*USD  
N9\*BM\*2950000\*\*19990929  
N7\*TRIU\*564954\*10224\*N\*7500\*\*\*\*\*4000\*A\*\*\*102  
N8\*435527\*19990929  
F9\*93732\*BIRMINGHAM\*AL\*\*\*\*\*472600  
D9\*16002\*SOUTH SEATTLE\*WA\*\*\*\*\*845203  
N1\*SH\*INTERMODAL SHIPPER  
N4\*BIRMINGHAM\*AL  
N1\*CN\*INTERMODAL CONSIGNEE  
N4\*SEATTLE\*WA  
N1\*PF\*INTERMODAL FREIGHT PAYOR  
N3\*123 STREET  
N4\*MEMPHIS\*TN\*381209401  
LX\*1  
L5\*1\*FURNITURE, NEC, METALLIC OR WOODEN\*2519990\*T  
L5\*1\*FURNITURE, NEC  
L0\*1\*\*\*10224\*N\*1\*T\*64\*CTN  
L1\*1\*1300\*PA\*130000\*\*130000\*\*\*\*\*USD  
PI\*PR\*999999999\*\*\*MDZZ\*QTISO\*\*0000000000  
L3\*\*\*\*\*130000\*\*130000  
SE\*22\*135683

## ***The Transaction***

A transaction set is used to describe the electronic transmission of single document between one company's computer and another company's computer.

EDI transactions are defined by segments, and each item within the segment becomes a data element. Data element Type, Requirement Designator, and Length are described below. These identifiers are listed for each Data Element throughout the remainder of this guide.

### ***Data Element Type***

Specifies the characters that may be used.

Nn	Numeric	N indicates that it is numeric; n indicates decimal place.
R	Decimal	R indicates an optional decimal point for integer values or a required decimal for decimal values. BNSF can accept positive and decimal values.
ID	Identifier	A specific code taken from a table defined in the Data Element Dictionary such as unit of measure.
AN	String	A series of alpha/numeric characters, such as a company name.
DT	Date	YYYYMMDD (ISO standard date)
TM	Time	HHMM express in 24-hour clock format.

### ***Data Element Requirement Designator***

Indicates when this element must be included in an electronic document.

M	Mandatory	The data element shall be used in the segment.
C	Conditional	The data element may be required in the segment based on whether another element is used.
O	Optional	The data element may or may not be used in the segment at the option of the user.

### ***Data Element Length***

The minimum length and maximum length of the characters in the data element.

1/15	Indicates that "1" is the minimum acceptable value and "15" is the maximum.
------	---

## ***General Information***

To establish an "Electronic Data Interchange Partnership" with Burlington Northern Santa Fe, you may contact your BNSF Representative or call BNSF's Customer Support number (1-800-809-2673 Option 4).

The minimum requirements for EDI participation are:

Personal Computer (IBM compatible)  
2400 Baud Modem (Hayes compatible)  
Single line telephone (Data capable)\*

\* BNSF offers toll-free 800 service for data transmission.

Also necessary is a translation program or software capable of converting your billing information into the proper EDI format.

Another option for establishing an EDI partnership with Burlington Northern Santa Fe is to utilize the services of a "Third Party" vendor.

Whatever selection your business needs dictate, Burlington Northern Santa Fe will assist you in establishing your EDI partnership.

## ***COMMUNICATIONS PROTOCOL***

As successful communications are necessary to exchange data between two computers, Burlington Northern has attempted to offer you a complete array of communication possibilities, all of which are available for your use, 24 hours, every day of the year. This allows you to select the best option to fit your business needs.

Options available are:

1. **DIRECT.** Toll-free 800 service via asynchronous 2400/9600/14400 BPS.  
Toll-free 800 service via bisynchronous 4800/9600 BPS.  
SMTP (simple mail transport protocol) mail via the Internet.  
FTP (file transfer protocol) via the Internet.
2. **THIRD PARTY.** Use any independent third party to message switch/translate your data to BNSF.

Burlington Northern Santa Fe offers two dial-in communications options.

1. You may dial BNSF direct using 2400, 9600, or 14400 BPS Asynchronous communications protocol. The asynchronous communication parameters are as follows:

Transmission speed	2400/9600/14400 BPS
Line protocol	Half-duplex
Parity	Even
Data bits	7
Stop bits	1
Modem	Bell 212A, v.32, v.32bis, or compatible
Data characters	ASCII
Flow control	XON/XOFF (hex 11 and 13)
End of transmission	EOT (hex 4)

All messages must be preceded by a line with the User ID followed by the normal input data.

Example of an Asynchronous transmission:

```
USERID
GS*
ST*
DATA
SE*
ST*
DATA
SE*
GE*
```



2. BNSF utilizes IBM standard 3780 protocol for bisynchronous communications with a block size of 256 characters.

New line characters should separate each segment. BNSF will remove any control characters and will not perform any type of conversion or translation of those characters.

Transmission speed	4800 and 9600 BPS
Line protocol	Half Duplex
Transparency	Off
Block check	Odd
Data bits	8
Data transfer	Point to point
Transmission protocol	IBM 3780
Modem	v.32, BELL 208, or compatible
Data character	EBCDIC
Newline character	Hex 15
# character	Hex 7B
* character	Hex 5C
STX (start of text)	Hex 02
ETX (end of text)	Hex 03
EOB/ETB (end of block)	Hex 26
EOT (end of transmission)	Hex 37
IRS	Hex 1F

Example of a Bisynchronous transmission:

All messages must be preceded with a User ID. The User ID must be bounded with an STX (Start of Text) and a "#" at the beginning (Synchronous communications) and an ETB (End of Transmission Block) at the end. Subsequent text should also be bounded by an STX and ETB, with an ETX (End of Text) and EOT (End of Transmission) closing the transmission.

Your 997 acknowledgement transmission would be send as follows::

STX  
#USERID  
ETB  
STX  
VP^997 (the ^ indicates a blank space between VP and 997)  
SIG Any 3 alpha characters are acceptable.  
ETB  
ETX  
EOT

OR

STX  
\$\$REQUEST ID=*USERID* BATCHID='997'  
ETB  
ETX  
EOT

**SEGMENT ISA–Interchange Control Header**

**MANDATORY**

Maximum Use: 1 per transaction set

Example:

ISA\*00\*.....\*00\*.....\*02\*BNSF.....\*02\*CUSTOMERID.....\*000101\*0034\*U\*00401\*123456789\*1\*P\*~

#	NAME	DATA ELEMENT # / TYPE	MIN/MAX	REQ	CONTENTS
1	Authorization Information Qualifier	I01 / ID	02/02	M	00
2	Authorization Information	I02 / AN	10/10	M	
3	Security Information Qualifier	I03 / AN	02/02	M	00
4	Security Information	I04 / AN	10/10	M	
5	Interchange ID Qualifier	I05 / ID	02/02	M	02
6	Interchange Sender ID	I06 / ID	15/15	M	customer id/name
7	Interchange ID Qualifier	I07 / ID	02/02	M	02
8	Interchange Receiver ID	I08 / ID	15/15	M	BNSF
9	Interchange Date	I09 / DT	06/06	M	YYMMDD
10	Interchange Time	I10 / TM	04/04	M	HHMM
11	Interchange Control Standard ID	I11 / ID	01/01	M	U - US EDI Community of ASC X12, TDCC, and UCS
12	Interchange Control Version Number	I12 / ID	05/05	M	00401 – X12 ver 4010
13	Interchange Control Number	I13 / N0	09/09	M	
14	Acknowledgement Requested	I14 / ID	01/01	M	0 - No acknowledgement requested 1 - Interchange acknowledgement requested
15	Test Indicator	I15 / ID	01/01	M	P - production T - test
16	Subelement Separator	I16 / AN	01/01	M	BNSF uses ~ (tilde character)

**NOTE: Spaces must be used when maximum length requirement is not met by the contents of the data element. Spaces are shown above in the example by periods (.). These are not part of the ISA but used here to illustrate that spaces are required even if no data is supplied within the position.**

**SEGMENT GS–Beginning Segment**

**MANDATORY**

Maximum Use: 1 per transaction set

Example: GS\*IR\*BNSF\*RECEIVER ID\*20000101\*1300\*1001\*X\*004010

#	NAME	DATA ELEMENT # / TYPE	MIN/MAX	REQ	CONTENTS
1	Functional Group	479 / A	02/02	M	'IR' only for 410
2	Appl Send	142 / AN	02/12	M	BNSF
3	Appl Receiver	124 / A	02/12	M	Receiver id - customer id
4	Interchange Date	29 / N	08/08	M	YYYYMMDD of transmission
5	Interchange Time	30 / N	04/04	M	HHMM of transmission
6	Control Number	28 / N	01/09	M	Sender's message control number.
7	Agency Code	455 / N	01/02	M	X only for ASC X12
8	Version	480 / N	01/12	M	Senders transmission standard version. This manual represents version 004010.

**SEGMENT ST - Transaction Set Header**

**MANDATORY**

Maximum Use: 1 per transaction set

Example: ST\*410\*10010001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Transaction ID Code	143 /ID	03/03	M	410
2	Control Number	329 /AN	04/09	M	Sender message GS06 control number plus a four character number starting with 0001. This number will be increased by one for each ST-SE freight bill in the transmission.

**SEGMENT B3B - Beginning Segment for Carrier's Invoice**

**MANDATORY**

Maximum Use: 1

Example: B3B\*09387448\*PP\*20000101\*52900\*20000101\*BNSF\*X\*\*L\*\*USD

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Invoice Number	76 / AN	01/22	M	BNSF document number
2	Shipment Method of Payment	146 / ID	02/02	M	PP prepaid CC collect
3	Date	373 / DT	08/08	M	YYYYMMDD
4	Net Amount Due	193 / N2	01/12 * limited to 9 for rail transactions	M	Total amount to be collected. Two decimal positions are implied unless otherwise specified as customer requirement.
5	Date	373 / DT	08/08	M	YYYYMMDD
6	SCAC	140 / ID	02/04	M	SCAC of railroad to collect charges (BNSF or MRL)
7	Transportation Method Type Code	91 / ID	01/02	M	R rail X intermodal (if equipment type equals CN, CC or TL)
8	No longer used	----	---	-	----
9	Weight Unit Code	188 / ID	01/01	O	L pounds
10	Correction Indicator	202 / ID	02/02	O	
11	Currency Code	100 / ID	03/03	O	USD – US dollars

**SEGMENT C4 - Alternate Amount Due**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Currency Code	100 / ID	03/03	M	
2	Net Amount Due	193 / N2	01/09	M	

**SEGMENT N9–Reference Number**

**MANDATORY**

Maximum Use: 30

Example: N9\*BM\*EDIC0001\*\*20000101

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Reference Qualifier	128 / ID	02/03	M	BL government bill of lading number BM bill of lading number BN booking number CO customer order number EB embargo permit number EN embargo number GR grain order reference number PO purchase order SN seal number (also reflected in M7) SO shipper order WM weight agreement number WY rail waybill number * If other qualifiers are needed, refer to the data dictionary within the standards documentation
2	Reference Number	127/ AN	01/30	C	
3	Description	369 / AN	01/45	C	
4	Date	373 / DT	08/08	O	YYYYMMDD
5	Time	377 / TM	04/08	O	HHMM
6	Time Code	623 / ID	02/02	O	AT – Alaska time CT – Central time ET – Eastern time LT – Local time MT – Mountain time NT – Newfoundland time PT – Pacific time TT – Atlantic time



**SEGMENT CM –Cargo Manifest**

**OPTIONAL**

Maximum Use: 2

Example: CM\*110\*D\*BALTIMORE\*20000101\*BOOKING1234\*BNSF\*\*\*NAME

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Voyage Number	55 / AN	02/10	O	
2	Port Terminal Code	115 / ID	01/01	C	D – port at which cargo is discharged from the first or only vessel which will carry the cargo. L – first port at which the cargo is loaded to the first vessel. 1 – last port at which cargo is unloaded from a vessel.
3	Port Name	114 / AN	02/24	O	
4	Date	373 / DT	08/08	O	YYYYMMDD If CM02 = D, this will represent the dock date. If CM02 = L, this will represent the sail date.
5	Booking Number	13 / AN	01/17	O	
6	SCAC	140 / ID	02/04	O	Current carrier
7	SCAC	140 / ID	02/04	O	Previous carrier
8	Date	373 / DT	08/08	O	YYYYMMDD – manifest date
9	Vessel Name	182 / AN	02/28	O	
10	Pier Number	113 / AN	01/04	O	
11	Pier Name	112 / AN	02/14	O	
12	Terminal Name	174 / AN	02/30	O	
13	State/Province Code	156 / ID	02/02	O	
14	Country Code	26 / ID	02/03	O	
15	Reference Number	127 / AN	01/30	O	

**SEGMENT NTE**– *Note/Special Instruction*

**OPTIONAL**

Maximum Use: 2

Example: NTE\*ADD\*FREE FORM ADDITIONAL INFORMATION

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Note Reference Code	363 / ID	03/03	O	ADD – Additional information.
2	Description	352 / AN	01/80	M	

Note: These are free form comments that have been created by BNSF personnel. This segment will *not* contain any free form comments that may have been included on your bill of lading.

**SEGMENT N7–Equipment Details**

**MANDATORY**

Maximum Use: 1 (225 Loops)

Example: N7\*TRIU\*564954\*10224\*N\*7500\*\*\*\*\*4000\*A\*\*\*\*102 (intermodal)  
 N7\*NW\*178483\*100129\*N\*65100\*\*\*\*\*RR\*\*\*\*\*A\*\*\*\*\*C113 (carload)

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Equipment Initial	206 / AN	01/04	M	
2	Equipment Number	207 / AN	01/10	M	
3	Weight	81 / R	01/10	O	
4	Weight Qualifier	187 / ID	01/02	C	E - estimated weight G - gross weight N- net weight
5	Tare Weight	167 / N0	03/08	C	Tare represents the weight of the equipment only.
6	Allowance	232 / N0	02/06	O	
7	Dunnage	205 / N0	01/06	O	
8	No longer used	----	----	-	
9	No longer used	----	---	-	
10	Ownership Code	102 / ID	01/01	O	
11	Equipment Description Code	40 / ID	02/02	O	CC - container with chassis CN - container without chassis TL – trailer RR – railcar ID – idler
12	SCAC	140 / ID	02/04	O	
13	No longer used	----	---	-	
14	Position	219 / AN	01/03	O	
15	Equipment Length	567 / N0	04/05	O	Format is Feet/Inches (40 foot reflected at 4000)
16	Tare Qualifier	571 / ID	01/01	C	
17	No longer used	----	---	-	
18	Equipment Check Digit	761 / N0	01/01	O	
19	No longer used	----	---	-	
20	Height	65 / R	01/08	O	
21	Width	189 / R	01/08	O	
22	Equipment Type	24 / ID	04/04	O	
23	SCAC	140 / ID	02/04	O	
24	Car Type Code	301 / ID	01/04	O	

**SEGMENT VC—Motor Vehicle Control**

**OPTIONAL**

Maximum Use: 21

Example: VC\*VINNUMBER1234567

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Vehicle Identification Number	539 / AN	01/25	M	
2	Deck Position	836 / ID	02/02	O	
3	Vehicle Type	837 / ID	01/01	O	1 – automobile 2 – truck 3 – others 4 – used vehicles 5 - military
4	Dealer Code	838 / AN	02/09	O	
5	Route Code	1 / AN	01/13	O	
6	No longer used	----	---	-	
7	No longer used	----	---	-	
8	No longer used	----	---	-	
9	No longer used	----	---	-	
10	Factory Car Order Number	583 / AN	06/10	O	

**SEGMENT G4–Scale Identification Number**

**OPTIONAL**

Maximum Use: 2

NOTE: THIS SEGMENT NOT USED BY BNSF

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	City Name	19 / AN	02/19	M	
2	State of Province Code	156 / ID	02/02	M	
3	Name	459 / AN	02/30	O	
4	Date	373 / DT	08/08	M	
5	Time	337 / TM	04/06	O	
6	Scale Type Code	570 / ID	04/06	O	

**SEGMENT M7–Seal Numbers**

**OPTIONAL**

Maximum Use: 5

Example: M7\*SEAL NUMBER

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Seal Number	225 / AN	02/15	M	BNSF supports one occurrence.
2	Seal Number	225 / AN	02/15	O	
3	Seal Number	225 / AN	02/15	O	
4	Seal Number	225 / AN	02/15	O	

**SEGMENT N5– Car Ordered**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Equipment Length	567 / R	04/05	M	
2	Weight Capacity	233 / N	02/03	O	
3	Cubic Capacity	203 / N	02/04	O	
4	Car Type Code	301 / ID	01/04	O	
5	No longer used	----	---	-	
6	Height	65 / R	01/08	O	

**SEGMENT IC – Intermodal Chassis Equipment**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Equipment Initial	206 / A	01/04	M	
2	Equipment Number	207 / N	01/10	O	
3	Tare Weight	167 / R	03/08	C	
4	Tare Qualifier Code	571 / ID	01/01	C	
5	SCAC	140 / ID	02/04	O	
6	Length	567 / R	04/05	O	
7	SCAC	140 / ID	02/04	O	
8	Chassis Type	845 / ID	02/02	O	



**SEGMENT IM – Intermodal Information**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Water Movement	533 / ID	01/01	O	
2	Special Handling Code	152 / ID	02/03	O	
3	Inland Transportation Code	534 / ID	02/02	O	

**SEGMENT M12 – Inbond Identifying Information**

**OPTIONAL**

Maximum Use: 1

Example: M12\*61\*1234567\*NA\*\*\$20PER\*\*\*S4

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Entry Type Code	581 / ID	02/02	M	61- IT number 62 - TE number
2	Entry Number	601 / AN	01/15	C	
3	Location Identifier	310 / AN	01/30	O	
4	Location Identifier	310 / AN	01/30	O	
5	Customs Shipment Value	602 / R	02/08	O	
6	In-bond Control Number	603 / AN	01/25	C	
7	No longer used	----	---	-	
8	Reference Number Qualifier	128 / ID	02/03	C	
9	Reference Number	127 / AN	01/30	O	
10	Vessel Name	182 / AN	02/28	C	

Note: Segment is mandatory for rail in-bond shipments.

M1206 In-bond Control Number contains conventional in-bond number

**SEGMENT GA – Canadian Grain Information**

**OPTIONAL**

Maximum Use: 15

NOTE: THIS SEGMENT IS NOT USED BY BNSF

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Fumigated Cleaned Ind	1275 / ID	01/01	O	
2	Commodity Code	22 / AN	01/30	O	
3	Insp/Weigh Indicator Code	1576 / ID	01/02	O	
4	Reference Number Qualifier	128 / ID	02/03	C	
5	Reference Number	127 / AN	01/30	C	
6	Week	642 / N0	04/04	O	
7	Unload Terminal	899 / ID	03/04	O	
8	Date	373 / DT	08/08	O	
9	Number	1470 / N0	01/09	O	
10	Mach Sep Ind Code	1276 / ID	02/02	O	
11	CWB Market Class Code	1277 / ID	01/01	O	
12	CWB Market Type Code	1278 / ID	01/01	O	
13	Yes/No Cond Response Code	1073 / ID	01/01	O	
14	Location Identifier	310 / AN	01/30	O	
15	State or Province Code	156 / ID	02/02	C	
16	Percent Qualifier	1004 / ID	01/02	C	
17	Percent	954 / R	01/10	C	

**SEGMENT N8–Waybill Reference**

**MANDATORY**

Maximum Use: 225

Example: N8\*382408\*19991001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Waybill Number	186 / N0	01/06	M	
2	Waybill Date	373 / DT	08/08	M	YYYYMMDD
3	Cross Reference Type Code	231 / ID	01/01	C	L – lead car T – trailer
4	Equipment Initial	206 / AN	01/04	C	
5	Equipment Number	207 / AN	01/10	C	BNSF supports 6 character max
6	Waybill Number	186 / N0	01/06	C	
7	Waybill Date	373 / DT	08/08	C	
8	City Name	19 / AN	02/30	C	
9	State or Province	156 / ID	02/02	C	
10	SCAC	140 / ID	02/04	C	
11	FSAC	573 / ID	01/05	O	

Note:

If this is a 410 freight bill for an intermodal shipment, the N803 will reflect T and the subsequent N804 and N805 will contain the equipment initial and number of the flat car. Flat car information may only be available on BNSF origin traffic, as flat car information is not always received on billing information from interline carriers.

If this is a 410 freight bill for a carload shipment, the N803 will reflect L and will cross reference the lead car of a multiple car shipment.

**SEGMENT F9–Origin Station**

**MANDATORY**

Maximum Use: 1

Example: F9\*\*CHICAGO\*IL

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	FSAC	573 / ID	01/05	O	
2	City	101 / AN	02/30	M	<b>BNSF supports 19 character max</b>
3	State/Province	156 / ID	02/02	M	
4	No longer used	----	---	-	
5	No longer used	----	---	-	
6	No longer used	----	---	-	
7	No longer used	----	---	-	
8	SPLC	154 / ID	06/09	O	<b>BNSF supports 6 character max</b>
9	Postal Code	116 / ID	03/15	O	

**SEGMENT D9**–Destination Station

**MANDATORY**

Maximum Use: 1

Example: D9\*\*MINNEAPOLIS\*MN

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	FSAC	573 / ID	01/05	O	
2	City	19 / AN	02/30	M	<b>BNSF supports 19 character max</b>
3	State/Province	156 / ID	02/02	M	
4	No longer used	----	---	-	
5	No longer used	----	---	-	
6	No longer used	----	---	-	
7	No longer used	----	---	-	
8	SPLC	154 / ID	06/09	O	<b>BNSF supports 6 character max</b>
9	Postal Code	116 / ID	03/15	O	

**SEGMENT N1 - Name**

**MANDATORY**

Maximum Use: 1 (10 loops)

Example: N1\*SH\*SHIPPER NAME

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Entity ID Code	98 / ID	02/03	M	See list below
2	Name	93 / AN	01/60	C	
3	ID Code Qualifier	66 / ID	01/02	C	
4	ID Code	67 / AN	02/80	C	
5	Entity Relat Code	706 / ID	02/02	O	
6	Entity Id Code	98 / ID	02/03	O	

N101 Entity ID Codes

- 11 Rule 11
- AD Advise
- AO Account of
- AP Account of (Origin party)
- AQ Account of (Destination party)
- BN Beneficial owner
- C1 In care of party #1
- CB Customs broker.
- CD Consignee - Advise of consigned shipment - used for written orders
- CN Consignee. (Where the car will be spotted for unloading if there is no C1 segment).
- CV Converting Party
- LP Co-loader
- NC Notify crosstown switch (highway)
- NP Notify party for shippers orders
- N1 Notify
- N2 Release to
- OO Order of - Shippers orders
- PF Party to receive freight bill
- PU Party at pick-up location
- PV Certifying party
- RD Destination ramp
- RE Release to patron (shipper order / delivery order)
- RO Origin ramp
- SF Ship from
- SH Shipper
- SU Supplier/manufacturer
- TT Transfer to
- UC Ultimate consignee

**SEGMENT N2 – Additional Name Information**

**OPTIONAL**

Maximum Use: 2

NOTE:THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Name	93 / AN	01/60	M	
2	Name	93 / AN	01/60	O	



**SEGMENT N3–Address Information**

**OPTIONAL**

Maximum Use: 2

Example: N3\*1234 Main Street

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Address	166 / AN	01/55	M	
2	Address	166 / AN	01/55	O	

*SEGMENT N4–Geographic Location*

**OPTIONAL**

Maximum Use: 1

Example: N4\*DALLAS\*TX\*77075

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	City	19 / AN	02/30	O	
2	State/Province	156 / ID	02/02	O	
3	Postal Code	116/ ID	03/15	O	
4	Country Code	26 / ID	02/03	O	
5	Location Qualifier	309 / ID	01/02	C	
6	Location Identifier	310 / AN	01/30	C	

**SEGMENT PER – Administrative Communications Contact**

**OPTIONAL**

Maximum Use: 2

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Contact Function Code	366 / ID	02/02	M	
2	Name	93 / AN	01/60	O	
3	Communication Number Qualifier	365 / ID	02/02	C	
4	Communication Number	364 / AN	01/80	C	
5	Communication Number Qualifier	365 / ID	02/02	C	
6	Communication Number	364 / AN	01/80	C	
7	Communication Number Qualifier	365 / ID	02/02	C	
8	Communication Number	364 / AN	01/80	C	
9	Contact Inquiry Reference	443 / AN	01/20	O	

**SEGMENT BL – Billing Information**

**OPTIONAL**

Maximum Use: 12

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Rebill Reason Code	747 / ID	02/02	M	
2	FSAC	573 / ID	01/05	X	
3	FSAC	573 / ID	01/05	X	
4	SPLC	154 / ID	06/09	X	
5	City Name	19 / AN	02/30	X	
6	State or Province Code	156 / ID	02/02	O	
7	Country Code	26 / ID	02/03	O	
8	SPLC	154 / ID	06/09	X	
9	City Name	19 / AN	02/30	X	
10	State or Province Code	156 / ID	02/02	O	
11	Country Code	26 / ID	02/03	O	
12	SCAC	140 / ID	02/04	O	
13	SCAC	140 / ID	02/04	O	
14	SCAC	140 / ID	02/04	O	
15	SCAC	140 / ID	02/04	O	
16	SCAC	140 / ID	02/04	O	
17	SCAC	140 / ID	02/04	O	

**SEGMENT S1 - Stop Off Name**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Stop Sequence Number	165 / N0	01/03	M	
2	Name	459 / AN	02/30	M	
3	ID Code Qualifier	66 / ID	01/02	C	
4	ID Code	67 / AN	02/80	C	
5	SCAC	140 / ID	02/04	O	
6	Accomplishment	190 / ID	01/01	M	

***SEGMENT S2-Stop Off Address***

**OPTIONAL**

Maximum Use: 1 (2 per loop)

**NOTE: THIS SEGMENT NOT USED BY BNSF.**

<b>#</b>	<b>NAME</b>	<b>DATA ELEMENT # AND TYPE</b>	<b>MIN/MAX</b>	<b>REQ</b>	<b>CONTENTS</b>
1	Stop Sequence Number	165 / N0	01/03	M	
2	Address	166 / AN	01/55	M	
3	Address	166 / AN	01/55	O	

**SEGMENT S9–Stop off Station**

**OPTIONAL**

Maximum Use: 1

NOTE:THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Stop Sequence Number	165 / N0	01/03	M	
2	SPLC	154 / ID	06/09	O	
3	City	19 / AN	02/30	M	
4	State / Province	156 / ID	02/02	M	
5	Country Code	26 / ID	02/03	O	
6	Stop Reason	163 / ID	02/02	M	
7	Location Qualifier	309 / ID	01/02	C	
8	Location Identifier	310 / AN	01/30	C	

**SEGMENT R2–Route Information**

**MANDATORY**

Maximum Use: 13

Example: R2\*BNSF\*S\*BMONT\*\*\*R  
 R2\*UP\*1 (Carload)

R2\*BNSF\*S\*\*\*25\*X(Intermodal)

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	SCAC	140 / ID	02/04	M	BNSF
2	Sequence Code	133 / ID	01/02	M	This code indicates the order of the routing. Valid codes for the first R2 segment include the list below. Subsequent R2s (to indicate further interline movement) are indicated numerically. D - destination switch carrier S - shippers route R - rule 11 A - agents route I - if used, the carrier at origin will receive origin switch billing information used in handling the equipment properly.
3	City Name	19 / AN	02/30	M	Refer to the AAR Rule 260 Junction abbreviations.
4	SPLC	154 / ID	06/09	O	
5	Intermodal Service Code	177 / ID	01/02	C	See next page.
6	No longer used	----	---	-	
7	Intermediate Switch Carrier	296 / ID	02/04	O	
8	Intermediate Switch Carrier	296 / ID	02/04	O	

Note: Each set of shipment information must include at least one R2 segment. When including interline city names, the AAR Rule 260 abbreviations should be used.



R205 Intermodal Service Codes:

- 20 Rail owned equipment, door to door service.
- 22 Rail owned equipment, door to ramp service.
- 25 Rail owned equipment, ramp to ramp service.
- 27 Rail owned equipment, ramp to door service.
- 40 Steamship owned equipment moving domestically, door to door service.
- 42 Steamship owned equipment moving domestically, door to ramp service.
- 45 Steamship owned equipment moving domestically, ramp to ramp service.
- 47 Steamship owned equipment moving domestically, ramp to door service.
- 60 Private owned equipment, door to door service.
- 62 Private owned equipment, door to ramp service.
- 65 Private owned equipment, ramp to ramp service.
- 67 Private owned equipment, ramp to door service.
- 80 Steamship owned equipment moving internationally, door to door service.
- 82 Steamship owned equipment moving internationally, door to ramp service.
- 85 Steamship owned equipment moving internationally, ramp to ramp service.
- 87 Steamship owned equipment moving internationally, ramp to door service.

**SEGMENT R9 – Route Code**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT IS NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Route Code	1 / AN	01/13	M	
2	Agent/Ship Route Code	192 / ID	01/01	O	
3	Intermodal Service Code	177 / ID	01/02	O	
4	SCAC	140 / ID	02/04	O	
5	Action Code	306 / ID	01/02	O	
6	SCAC	140 / ID	02/04	O	

**SEGMENT PS–Protective Service Instruction**

**OPTIONAL**

Maximum Use: 5

Example: PS\*800\*M\*FA\*32

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Protective Service Rule	746 / ID	03/09	M	See list on following page for available options.
2	Protective Service	241 / ID	01/04	M	B body ice BC body ice consumed or removed D discontinue service HDN do not heat HDNC do not heat in Canada HSC standard heating in Canada M standard mechanical protective service MN modified mechanical protective service MNU do not operate
3	Unit of Measure Code	355 / ID	02/02	O	FA Fahrenheit CE Centigrade
4	Temperature	408 / R	01/04	C	Negative temperatures are accepted if preceded by minus (-) indicator.
5	SCAC	140 / ID	02/04	O	
6	FSAC	573 / ID	01/05	O	
7	City Name	19 / AN	02/30	O	
8	State/Province	156 / AN	02/02	O	
9	No longer used	----	---	-	
10	Pre-cooled Code	745 / ID	01/01	O	
11	Yes/No Cond Response Code	745 / ID	01/01	O	
12	Yes/No Cond Response Code	745 / ID	01/01	O	
13	Yes/No Cond Response Code	745 / ID	01/01	O	
14	Temperature	408 / R	01/04	C	

## **Element 746 Protective service rules**

### **Rule Description**

- 226 Stop for icing.
- 240 Initially iced by shipper- Do not re-ice.
- 242 Top Iced by shipper at origin.
- 245 Pre-cooled and pre-iced by shipper- Do not re-ice.
- 509 Modified Carrier's Protective Service (Intrastate only).
- 510 Shipper's Protective Service.
- 515 Carrier's Protective Service.
- 580 Special heater protective service.
- 705 Optimum temperature of zero degrees or less.
- 710 Optimum temperature above zero.
- 711 Place under modified MPS at first regular inspection station.
- 712 Shippers's specified MPS at origin or stop point.
- 715 Optimum temperature of zero degrees or less (Car owned /Leased by shipper).
- 720 Do not operate unit.
- 765 Optimum temperature above zero. Body iced by shipper.
- 805 Optimum temperature above zero.
- 810 Ventilators opened at origin.
- 830 Optimum temperature of zero degrees or less.

***SEGMENT LX–Assigned Number***

**MANDATORY**

Maximum Use: 1

Example: LX\*1

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N	01/06	M	Start with one (1) and increment by one (1).

*SEGMENT L5–Descriptions, Marks, and Numbers*

**MANDATORY**

Maximum Use: 15 (per loop)

Example: L5\*01\*BOILER PARTS,NEC,CAST IRO\*3443360\*T

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Line Number	213 / N0	01/03	O	Line number for the associated commodity
2	Lading Description	79 / AN	01/50	O	
3	Commodity Code	22 / AN	01/30	C	Standard Transportation Commodity Code - STCC - that describes the lading. <b>BNSF supports 7 character max</b>
4	Commodity Code Qualifier	23 / ID	01/01	C	T – Standard Transportation Commodity Code
5	Packaging Code	103 / ID	03/05	O	
6	Marks - Numbers	87 / AN	01/48	O	
7	Marks – Number Qualifier	88 / ID	01/02	O	
8	Commodity Code Qualifier	23 / ID	01/01	C	
9	Commodity Code	22 / AN	01/30	C	
10	Compartment ID Code	595 / ID	01/01	O	

**SEGMENT L0—Line Item, Quantity, and Weight**

**OPTIONAL**

Maximum Use: 10 (per loop)

Example: L0\*1\*\*\*80000\*N\*\*\*1\*CLD

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Lading Line Item Number	213 / N0	01/03	O	Line number for the associated L5 segment
2	Billed/Rated Quantity	220 / R	01/11	C	
3	Billed/Rated Qualifier	221 / ID	02/02	C	
4	Weight	81 / R	01/10	C	Weight of commodity for the entire shipment (if multiple bill - reflecting M in BNX03).
5	Weight Qualifier	187 / ID	01/02	C	N net All weights provided in this segment are assumed to be net.
6	Volume	183 / R	01/08	C	
7	Volume Unit Qualifier	184 / ID	01/01	C	
8	Lading Quantity	80 / N0	01/07	C	Number of car/trailer load equivalents in this transaction
9	Packaging Form Code	211 / ID	03/03	C	see below
10	Dunnage Description	458 / AN	02/25	O	
11	Weight Unit Code	188 / ID	01/01	O	
12	Type of Service Code	56 / ID	02/02	O	
13	Quantity	380 / R	01/15	C	
14	Packaging Form Code	211 / ID	03/03	O	
15	Yes/No Condition Resp Code	1073 / ID	01/01	C	

**Quantity Qualifiers:**

- BN BULK
- BO BOX
- BR BARREL
- BS BASKET
- BU BUSHEL
- BX BOX
- B4 BARREL, IMPERIAL
- CA CASE
- CAN CAN
- CAS CASE
- CF CUBIC FEET
- CH CONTAINER
- CL CYLINDER
- CLD CARLOAD (RAIL)
- CM CENTIMETER

CN	CAN
CNT	CONTAINER
COL	COIL
CP	CRATE
CR	CAR LOAD
CRT	CRATE
CT	CARTON
CTN	CARTON
CX	COIL
CYL	CYLINDER
C4	CARLOAD (RAIL)
DR	DRUM
DRM	DRUM
DT	DRY TON
DZ	DOZEN
FO	FLUID OUNCE
FSK	FLASK
GA	GALLON
GL	GRAMS PER LITER
GN	GROSS GALLON
GR	GRAM
HPC	HOPPER PNEUMATIC DISCHARGE
JAR	JAR
JR	JAR
JU	JUG
KE	KEG
KEG	KEG
KG	KILOGRAM
LB	POUND
LSE	LOOSE
LT	LITER
ML	MILLILITER
MM	MILLIMETER
MN	METRIC NET TON
MP	METRIC TON
MR	METER
NC	CAR
NG	NET GALLONS
PA	PAIL
PAL	PAIL
PCK	PACKED - NOT OTHERWISE SPECIFIED
PCS	PACKAGE
PH	PACK (PAK)
PK	PACKAGE
PKG	PACKAGE
PL	PALLET/UNIT LOAD
PLT	PALLET
PN	POUNDS NET
PT	PINT
QT	QUART



RA	RACK
RCK	RACK
RE	REEL
REL	REEL
RL	ROLL
ROL	ROLL
SAK	SACK
SJ	SACK
SKD	SKID
SO	SPOOL
SPL	SPOOL
SV	SKID
TB	TUBE
TBE	TUBE
TC	TRUCKLOAD
TE	TOTE
TH	THOUSANDS
TK	TANK
TKR	TANK CAR
TLD	INTERMODAL TRAILER/CONTAINER
TN	NET TON (2000 LB)
TNK	TANK
TO	TROY OUNCE
UN	UNIT
UNT	UNIT
VEH	VEHICLE
WE	WET TON
WHE	ON OWN WHEELS
Z3	CASK
1E	EMPTY CAR
12	PACKET
18	55 GALLON DRUM
2W	BIN
20	20 FOOT CONTAINER
21	40 FOOT CONTAINER
26	ACTUAL TONS
48	BULK CAR LOAD

**SEGMENT MEA – Measurements**

**OPTIONAL**

Maximum Use: 3

NOTE: THIS SEGMENT NOT USED BY BNSF

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Measurement Ref ID Code	737 / ID	02/02	O	
2	Measurement Qualifier	738 / ID	01/03	O	
3	Measurement Value	739 / R	01/20	C	
4	Unit/Basis Meas Code	355 / ID	02/02	C	
5	Range Minimum	740 / R	01/20	C	
6	Range Maximum	741 / R	01/20	C	
7	Measurement Sig Code	935 / ID	02/02	O	
8	Measurement Attrib Code	936 / ID	02/02	C	
9	Layer/Posit Code	752 / ID	02/02	O	
10	Measurement Method	1373 / ID	02/04	O	

**SEGMENT L1–Rate and Charges**

**MANDATORY**

Maximum Use: 1

Example: L1\*1\*1020\*PC\*102000\*\*102000\*\*\*\*\*USD

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Lading Line Item Number	213 / N0	01/03	O	Associated line from L5 segment
2	Freight Rate	60 / R	01/09	O	Shipment rate per unit. Decimal point supplied if fractional dollar amount.
3	Rate Qualifier	122 / ID	02/02	O	GT per gross ton MM per metric ton PA per container PC per car PH per hundred weight PM per mile PP per piece PT per net ton PU per unit PV per vehicle TN per train TR per trailer
4	Amount	610 / N2	01/15	C	Two decimal points implied.
5	Advances	191 / N2	01/09	O	Two decimal points implied.
6	Prepaid Amount	117 / N2	01/09	C	Two decimal points implied.
7	Rate Combination Point Code	120 / AN	03/09	O	
8	Special Charge/Allow Code	150 / ID	03/03	O	
9	Rate Class Code	121 / ID	01/03	O	
10	Entitlement Code	39 / ID	01/01	O	
11	Charge Method of Payment	16 / ID	01/01	O	
12	Special Change Description	276 / AN	02/25	O	
13	Tariff Appl Code	257 / ID	01/01	O	
14	Declared Value	74 / N2	02/12	C	
15	Rate/Value Qualifier	122 / ID	02/02	C	
16	Lading Liability Qualifier	372 / ID	01/01	O	
17	Billed/Rated Quantity	220 / R	01/11	C	
18	Billed/Rated Qualifier	221 / ID	02/02	C	
19	Percent	954 / R	01/10	O	
20	Currency Code	100 / ID	03/03	O	USD US Dollars
21	Amount	610 / N2	01/15	O	

**SEGMENT DTM – Date/Time Reference**

**OPTIONAL**

Maximum Use: 2

NOTE:THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Date/ Time Qualifier	374 / ID	03/03	M	
2	Date	373 / DT	08/08	C	
3	Time	337 / TM	04/08	C	
4	Time Code	623 / ID	02/02	O	

**SEGMENT PI – Price Authority Information**

**OPTIONAL**

Maximum Use: 30

Example: PI\*PR\*999999999\*\*\*MDZZ\*QTISO\*\*000000000 (price authority example)  
 PI\*TS\*000004022\*\*\*BNSF\*BNSF\*\*0000052360 (tariff example)

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Reference Number Qualifier	128 / ID	02/03	M	CT – contract PR – price authority TS – tariff authority
2	Reference Number	127 / AN	01/30	M	
3	Primary Pub Authority	436 / ID	02/02	O	Type of reference OP – other publication TP – tariff publication
4	Regulatory Agency Code	930 / ID	03/05	O	Code relating to the governing agency in effect for the move.
5	Tariff Agency Code	168 / ID	01/04	O	BNSF. The SCAC of the railroad who issued the price authority.
6	Issuing Carrier ID	965 / AN	01/10	O	Identifying element used by the price authority issuer in conjunction with the authority number to help identify the primary price authority (makes the number unique within a carrier). Some examples may be QT123456 or BNQ12345. QT and BNQ are the unique prefix that distinguishes this price authority.
7	Contract Suffix	660 / AN	01/02	O	
8	Tariff Item Number	169 / AN	01/16	O	Number assigned in the tariff to specify a rate or group of rates that apply to one or more items in the shipment.
9	Tariff Supp ID	173 / AN	01/02	O	Identifier for the tariff supplement which contains the rate.
10	Tariff Section	172 / AN	01/02	O	Number used as an extension of the basic tariff number to identify the rates published within specific sections of the tariff.
11	Contract Suffix	660 / AN	01/02	O	
12	Date	373 / DT	08/08	O	
13	Date	373 / DT	08/08	O	
14	Alternation Preced Code	629 / ID	01/01	O	
15	Alternation Preced Code	629 / ID	01/01	O	

**SEGMENT T1–Transit Inbound Origin**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N0	01/06	M	
2	Waybill Number	186 / N0	01/06	O	
3	Date	373 / DT	08/08	O	
4	SCAC	140 / ID	02/04	O	
5	City Name	19 / AN	02/30	C	
6	State or Province	156 / ID	02/02	C	
7	SPLC	154 / ID	06/09	O	
8	Transit Register No	229 / AN	01/06	O	
9	Transit Level Code	461 / ID	01/03	O	

**SEGMENT T2–Transit Inbound Lading**

**OPTIONAL**

Maximum Use: 30

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N0	01/06	M	
2	Lading Description	79 / AN	01/50	O	
3	Weight	81 / R	01/10	O	
4	Weight Qualifier	187 / ID	01/02	O	
5	Freight Rate	60 / R	01/09	C	
6	Rate/Value Qualifier	122 / ID	02/02	C	
7	Freight Rate	60 / R	01/09	C	
8	Rate/Value Qualifier	122 / ID	02/02	C	
9	City	19 / AN	02/30	O	
10	City	19 / AN	02/30	O	
11	Through Surcharge %	462 / N2	02/04	O	
12	Paid in Surcharge %	463 / N2	02/04	O	

**SEGMENT T3–Transit Inbound Route**

**OPTIONAL**

Maximum Use: 12

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N0	01/06	M	
2	SCAC	140 / ID	02/04	M	
3	Route Sequence Code	133 / ID	01/02	O	
4	City Station	19 / AN	02/30	O	
5	SPLC	154 / ID	06/09	O	
6	Equipment Initial	206 / AN	01/04	C	
7	Equipment Number	207 / AN	01/10	C	



**SEGMENT T6–Transit Inbound Rates**

**OPTIONAL**

Maximum Use: 1

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N0	01/06	M	
2	Freight Rate	60 / R	01/09	C	
3	Rate/Value Qualifier	122 / ID	02/02	C	
4	City	19 / AN	02/30	O	
5	Freight Rate	60 / R	01/09	C	
6	Rate/Value Qualifier	122 / ID	02/02	C	
7	City	19 / AN	02/30	O	

**SEGMENT T8–Free Form Transit Data**

**OPTIONAL**

Maximum Use: 99

NOTE: THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Assigned Number	554 / N0	01/06	M	
2	Free Form	299 / AN	01/80	M	

**SEGMENT L3–Total Weight and Charges**

**MANDATORY**

Maximum Use: 1

Example: L3\*\*\*\*\*102000\*\*102000

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	No longer used	----	---	-	
2	No longer used	----	---	-	
3	No longer used	----	---	-	
4	No longer used	----	---	-	
5	Charges	58 / N2	01/12	O	Total charges. Two decimal points implied.
6	Advances	191 / N2	01/09	O	
7	Prepaid Amount	117 / N2	01/09	O	

Note: Used for total charges, advances, and prepaid only.

**SEGMENT X7–Customs Information**

**OPTIONAL**

Maximum Use: 2

NOTE:THIS SEGMENT NOT USED BY BNSF.

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Free Form Comments	61/ AN	01/30	M	
2	Free Form Comments	61/ AN	01/30	O	

**SEGMENT SE**–Transaction Set Trailer

**MANDATORY**

Maximum Use: 1

Example: SE\*018\*0001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number of Segments	96 / N2	01/10	M	This element is the number of segments transmitted in the set. The ST segment is the first one counted and the SE segment is the last one counted.
2	Control Number	329 / N2	04/09	M	This number should match the control number on the ST segment.

*SEGMENT GE–Functional Group Trailer*

**MANDATORY**

Maximum Use: 1

Example: GE\*1\*1001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number of Sets	97 / N2	01/06	M	This element should be the number of sets transmitted (number ST-SE pairs).
2	Control Number	28 / N2	01/09	M	This number must match the control number transmitted on the GS segment.

**SEGMENT IEA–Interchange Control Trailer**

**MANDATORY**

Maximum Use: 20

Example: IEA\*1\*000001001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number Included Functional Groups	IEA01 / N0	01/05	M	This element should be the number of sets transmitted (number GS-GE pairs).
2	Interchange Control Number	IEA02 / N0	09/09	M	

**BNSF**



ELECTRONIC DATA INTERCHANGE

**997**

**FUNCTIONAL ACKNOWLEDGEMENT**

**USING  
ASC X12 TRANSACTION SET 410  
VERSION 004010**



## ***Introduction***

Transaction Set 997: Functional Acknowledgement  
Functional Group: FA

This transaction set contains the format and establishes the data contents of the Functional Acknowledgement 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 acknowledgements 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.*

Burlington Northern Santa Fe will accept the Rail Carrier Shipment Information published by DISA for ASC X12. The following guidelines are all-inclusive and identify unique requirements for use of the ASC X12 997 transaction set when transmitting data to Burlington Northern Santa Fe.

To obtain X12 standards and documentation, contact:

Data Interchange Standards Association, Inc.  
1800 Diagonal Road, Suite 355  
Alexandria, VA 22314-2840  
703-548-7005

## ***Basic Formatting Rules***

In reading and formatting 997 messages, some segments are not mandatory. For example, if all transactions are accepted without error, only the AK1 and AK9 segments are necessary. If, however, transactions are rejected or accepted with errors, detail regarding these messages should be formatted in the AK2, AK3, AK4, and AK5. This detail is used to determine how/why the messages were rejected or accepted with error, thus the problems can be readily identified and corrected for future transmission.

**SEGMENT ISA–Interchange Control Header**

**MANDATORY**

Maximum Use: 1 per transaction set

Example:

ISA\*00\*.....\*00\*.....\*02\*BNSF.....\*02\*CUSTOMERID.....\*000101\*0034\*U\*00401\*123456789\*1\*P\*~

#	NAME	DATA ELEMENT # / TYPE	MIN/MAX	REQ	CONTENTS
1	Authorization Information Qualifier	I01 / ID	02/02	M	00
2	Authorization Information	I02 / AN	10/10	M	
3	Security Information Qualifier	I03 / AN	02/02	M	00
4	Security Information	I04 / AN	10/10	M	
5	Interchange ID Qualifier	I05 / ID	02/02	M	02
6	Interchange Sender ID	I06 / ID	15/15	M	BNSF
7	Interchange ID Qualifier	I07 / ID	02/02	M	02
8	Interchange Receiver ID	I08 / ID	15/15	M	Customer ID
9	Interchange Date	I09 / DT	06/06	M	YYMMDD
10	Interchange Time	I10 / TM	04/04	M	HHMM
11	Interchange Control Standard ID	I11 / ID	01/01	M	U - US EDI Community of ASC X12, TDCC, and UCS
12	Interchange Control Version Number	I12 / ID	05/05	M	00401 - X12 ver 4010
13	Interchange Control Number	I13 / N0	09/09	M	
14	Acknowledgement Requested	I14 / ID	01/01	M	0 - No acknowledgement requested 1 - Interchange acknowledgement requested
15	Test Indicator	I15 / ID	01/01	M	P - production T - test
16	Subelement Separator	I16 / AN	01/01	M	BNSF uses ~ (tilde character)

***NOTE: Spaces must be used when maximum length requirement is not met by the contents of the data element. Spaces are shown above in the example by periods (.) . These should not be part of the ISA but used here to illustrate that spaces are required even if no data is supplied within the position This segment needs to be exactly 106 positions long - counting the ISA, all the delimiters, all the mandatory fields plus a Hex 15 immediately following ISA 16 to indicate carriage return/line feed  
IF COMMUNICATING VIA RAILINC, PLEASE SEE APPENDIX 1 AT END OF THIS DOCUMENT.***

**SEGMENT GS–Beginning Segment**

**MANDATORY**

Maximum Use: 1 per transaction set

Example: GS\*FA\*PASSWORD/ID\*BNSF\*20000101\*1300\*1001\*X\*004010

#	NAME	DATA ELEMENT # / TYPE	MIN/MAX	REQ	CONTENTS
1	Functional Group	479 / A	02/02	M	FA
2	Appl Send	142 / AN	02/12	M	Mailbox or customer ID agreed to by acceptance into BNSF computer system.
3	Appl Receiver	124 / A	02/12	M	Receiver railroad id BNSF
4	Interchange Date	29 / N	08/08	M	YYYYMMDD of transmission
5	Interchange Time	30 / N	04/04	M	HHMM of transmission
6	Control Number	28 / N	01/09	M	Sender's message control number
7	Agency Code	455 / N	01/02	M	X only for ASC X12
8	Version	480 / N	01/12	M	Senders transmission standard version. This manual represents version 004010.

***SEGMENT ST - Transaction Set Header***

**MANDATORY**

Maximum Use: 1 per transaction set

Example: ST\*997\*0001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Functional Group	143 /ID	03/03	M	997
2	Control Number	329 /AN	01/09	M	Sender message control number. This number will be returned by receiver in response transaction set.

*SEGMENT AK1 - Functional Group Response Header*

**MANDATORY**

Maximum Use: 1 per transaction set

Example: AK1\*SR\*1234

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Functional ID Code	479 / ID	02/02	M	
2	Group Control Number	28 / N0	01/09	M	Leading zeros will not be suppressed. This is the group control number from the original document, not this 997 message.

**SEGMENT AK2 – Transaction Set Response Header**

**MANDATORY**

Maximum Use: 1 per transaction set

Example: AK2\*410\*123400001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Transaction ID Code	143 / ID	03/03	M	This indicates the transaction set which is being acknowledged. The above example reflects a 997 message in response to a 410 freight bill.
2	Transaction Control Number	329 / AN	04/09	M	This is the control number from original document that is being acknowledged.

**SEGMENT AK3 - Data Segment Note**

**OPTIONAL**

Maximum Use: 1 per transaction set

Example: AK3\*080\*N7\*N7

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Segment ID Code	721 / ID	02/03	M	
2	Segment Position in Transaction Set	719 / N0	01/06	M	
3	Loop ID Code	447 / AN	01/04	O	
4	Segment Syn Error Code	720 / ID	01/03	O	



**SEGMENT AK4 - Data Element Note**

**OPTIONAL**

Maximum Use: 99 per transaction set

Example: AK4\*11\*0040\*7\*XX

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Element Position in Segment	722 / N0	01/02	M	
2	Data Element Reference Number	725 / N0	01/04	O	
3	Data Element Error Code	723 / ID	01/03	M	
4	Copy of Bad Data Element	724 / AN	01/99	O	

**SEGMENT AK5 - Transaction Set Response Trailer**

**MANDATORY**

Maximum Use: 99 per transaction set

Example: AK5\*A

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Transaction Set Acknowledgement Code	717 / ID	01/01	M	A - accepted E - accepted but errors noted R - rejected
2	Transaction Set Syntax Error Code	718 / ID	01/03	O	1 - not supported 2 - trailer missing 3 - control number in header & 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
3	Transaction Set Syntax Error Code	718 / ID	01/03	O	
4	Transaction Set Syntax Error Code	718 / AN	01/03	O	
5	Transaction Set Syntax Error Code	718 / AN	01/03	O	
6	Transaction Set Syntax Error Code	718 / AN	01/03	O	

**SEGMENT AK9 - Functional Group Response Trailer**

**MANDATORY**

Maximum Use: 99 per transaction set

Example: AK9\*A\*1\*1\*1

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Functional Group Acknowledgement Code	715 / ID	01/01	M	A - accepted E - accepted but errors noted R - rejected P - Partially rejected, at least one transaction set was rejected
2	Number of Transaction Sets Included	97 / N0	01/06	M	
3	Number of Received Transaction Sets	123 / N0	01/06	M	
4	Number of Accepted Transaction Sets	2 / N0	01/06	M	
5	Functional Group Error Code	716 / ID	01/03	O	
6	Functional Group Error Code	718 / ID	01/03	O	
7	Functional Group Error Code	718 / ID	01/03	O	
8	Functional Group Error Code	718 / ID	01/03	O	
9	Functional Group Error Code	718 / ID	01/03	O	

***SEGMENT SE - Transaction Set Trailer***

**MANDATORY**

Maximum Use: 1 per transaction set

Example: SE\*1\*0001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number of Included Segments	96 / N0	01/10	M	
2	Control Number	329 /AN	04/09	M	

**SEGMENT GE - Ending Segment**

**MANDATORY**

Maximum Use: 1 per transaction set

Example: GE\*1\*1001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number of Sets	97 / N2	01/06	M	This element should be the number of sets transmitted (number ST-SE pairs).
2	Control Number	28 / N2	01/09	M	This number must match the control number transmitted on the GS segment.

***SEGMENT IEA–Interchange Control Trailer***

**MANDATORY**

Maximum Use: 20

Example: IEA\*1\*000001001

#	NAME	DATA ELEMENT # AND TYPE	MIN/MAX	REQ	CONTENTS
1	Number Included Functional Groups	IEA01 / N0	01/05	M	This element should be the number of sets transmitted (number GS-GE pairs).
2	Interchange Control Number	IEA02 / N0	09/09	M	

## ***APPENDIX 1 - Use of ISA headers with Railinc***

When using ISA headers with Railinc, the values within the data elements are different.

Railinc's requirements for the ISA are as follows:

- The ISA01 is always 04 for Railinc, otherwise should be 00.
- The ISA02 should be pulled from list in documentation for Railinc, otherwise blank.
- The ISA03 should be 00 unless we are using passwords, then 01.
- The ISA04 should be the password if ISA03 is 01.
- The ISA06 is used at Railinc for all routing. This field should be the 4 character abbreviation of the third party (ex, "UPT ") if applicable, plus the Railinc defined 4 character abbreviation for the partner. It is possible that the partner abbreviation would not be required when using third parties (depends on the 3rd party). Non Railinc partners can define this value as they wish.

When translating messages from ISA to TRAIN II headers, this field will contain the transaction set identifier preceded by "SW". For a functional acknowledgment, the transaction set identifier will be preceded by "FA". (IE: SW417 or FA417)