



Application Of ENGDAT V 2.0 in Engineering data exchange with Swedish OEMs:

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Application of engineering data (ENGDAT Ver. 2.0)

1 Introduction

This document describes Swedish Vehicle OEM's, Called SOEM in the document, application of the ODETTE message for engineering data (ENGDAT).

The specification includes a detailed description of the data elements used.

The Odette ENGDAT message version 2.0, issued by the Odette secretariat in August 2002, will constitute the basis for the application.

The ENGDAT message is to be used in conjunction with the transmission of one or more engineering files. It is not possible to include the information contained in these files inside a syntaxed Odette message. Therefore, the engineering files are sent as separate files. The information specific to each individual file is found in the Engineering File Characteristics (EFC) segment and the segments at level two and three in the structure diagram. The rest of the segments at level zero and one carry information about the exchange as such and the context in which the exchange is taking place.

2 Guidelines for use

2.1 Timing of Transmission

It is not recommended to send the ENGDAT message and the engineering data files in separate sessions.

2.2 Engineering data files

The files with engineering data associated with the ENGDAT message can be of various types. Neither the Odette File Transfer Protocol (OFTP), nor the message enforces any limitations on the content of the files or code used within them. Examples of engineering files are:

- Native CAD-files, i.e. CAD-files exchanged between partners using the same type of CAD-system. These files are generally in a binary format, specific to a certain CAD-system.
- CAD-files in a standardised exchange format, e.g. IGES, VDAFS, STEP or SET.
- Plot files in a neutral format (CGM etc.) or specific to a certain type of plotter.
- Technical documentation for a certain detail such as standards, technical regulations, layer structure for the CAD-file etc, sent as a text file. The necessary information to interpret each file is carried by the ENGDAT message.

2.3 Preparing for communication

The partners must agree in advance on which types of engineering files it is possible to exchange between a specific sender/receiver combination. An agreement must also be reached regarding the transfer method of the engineering files.

2.4 Link between the ENGDAT message and the engineering files

The ENGDAT message contains references to the engineering files and a description for each of them. The virtual file in the OFTP-protocol links the ENGDAT message to each file according to the mandatory structure below.

A virtual file name is created as follows:

ENG<EXCHANGE REFERENCE><NUMBER OF FILES><FILE NUMBER>

Example: ENG010150000000995003001 (The EDI message)
ENG010150000000995003002 (A model or drawing)
ENG010150000000995003003 (A model or drawing)

ENG (an3)	Message identification.
Exchange reference (an17)	Transmission identification. Set by the sender and must be unique for each transmission between the sender and the receiver. Exchange reference must be identical to MID1004. <u>Recommendation:</u> Should contain either supplier id, date and time or supplier name to avoid duplicate values.
Number of files (n3)	Number of files in the transmission, including the ENGDAT message.
File number (n3)	Sequence number i.e. the serial number that is put on every file. The sequence number of the ENGDAT is always 001. Technical documents in a transmission have a sequence number between 002 and 999.

3 Requirements in respect to implementation of ENGDAT.

SOEM has some basic demands on the supplier's applications for exchanging engineering documents. The applications and the ENGDAT messages must fulfil the following requirement:

3.1 Compression

Different compression methods are used differently by SOEMs. See respective OEM's appendix.

4 Connectivity

4.1 Network service and protocol

SOEM communicates point-to-point using the public switched network service based on the ISDN network. As file transfer protocol, OFTP will be used (Odette ref.: ODG04SP9213 and ODG04OR95044).

5 Explanation of codes used in the segment-description

In the detailed applications in this documentation we use M, C, R and N/U to describe which segments and data elements that are Mandatory, Conditional, Required or Not Used. Each data element's length and representation is also described. Base Attributes, are in accordance with the Odette specification and User Attributes are in accordance with SOM demand.

See example below.

- **M** Mandatory
Mandatory according to the Odette or International Edifact Standard
- **R** Required
Mandatory according to OEM's demands
- **C** Conditional
- **N/U** Not Used

6.0 Application of ISO/ EDIFACT and OFTP

6.1 Service segment

UNB and UNH and the corresponding final trailer segments UNZ and UNT are used.

6.2 Separators

The following characters are reserved for special use in ISO/EDIFACT:

- + Segment tag and data element separator.
- : Component data element separator.
- ' Segment terminator.
- ? Release character.

6.3 Character sets

SOEM supports level A, B and C.

- UNOA: As defined in ISO 646 (with the exception of letters, lower case a to z)
- UNOB: As defined in ISO 646
- UNOC: As defined in ISO 8859-1 Latin alphabet no. 1.
 - If UNOB or UNOC is used, SCANIA requires UNA to be present.

5.0 Implementation Process

1. Exchange EDI parameters.
2. Set up communication
3. OEM transmits to the supplier
4. The supplier evaluates the received ENGDAT
5. The supplier transmits to OEM
6. OEM evaluates the ENGDAT transfer.
7. End of test phase

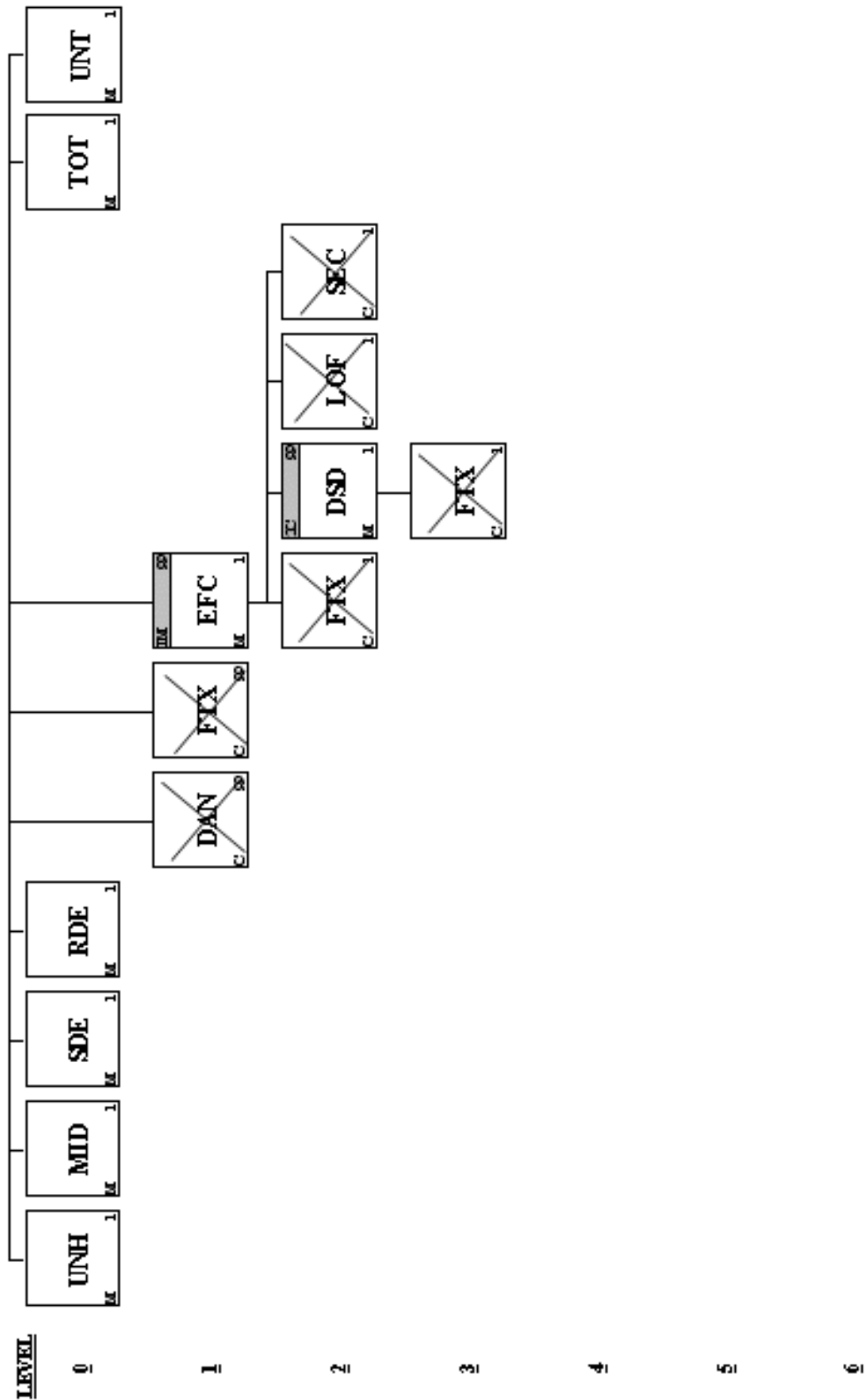
6 ENGDAT Engineering Data

ENGDAT Engineering Data

Introduction:

This document defines the Odette ENGDAT (Engineering data) message to be used in Electronic Data Interchange (EDI) and on physical media between trading partners.

<u>Page No.</u>	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Base Status</u>	<u>User Status</u>	<u>Max.Use</u>	<u>Group Repeat</u>	<u>Notes and Comments</u>
11	005	UNH	Message Header	M	M	1		
12	010	MID	Message Identification	M	M	1		
13	015	SDE	Sender Details	M	M	1		
15	020	RDE	Receiver Details	M	M	1		
	025	DAN	Document References	C	N/U	99		
	027	FTX	Free Text	C	N/U	99		
Segment Group 1: EFC-FTX-SG2-LOF-SEC				M	M		99	
18	028	EFC	Engineering File Characteristics	M	M	1		
	030	FTX	Free Text	C	N/U	1		
Segment Group 2: DSD-FTX				C			99	
21	040	DSD	Drawing Specification Details	M	M	1		
	045	FTX	Free Text	C	N/U	1		
	047	LOF	Links to Other Files	C	N/U	1		
	048	SEC	Security Elements	C	N/U	1		
22	065	TOT	Totals	M	M	1		
23	070	UNT	Message Trailer	M	M	1		



Segment: UNH Message Header

Position: 005
Group:
Level: 0
Usage: Mandatory
Max Use: 1
Purpose: To head, identify and specify a message.
Notes: Example: UNH+1061409+ENGDAT:1::OD'

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
0062		MESSAGE REFERENCE NUMBER Unique message reference assigned by the sender. Must be unique in conjunction with 0020 values in UNB. The reference number assigned should be unique not only within a single interchange but across many interchanges from the same sender for a sufficient time to avoid any confusion.	M an..14	M
S009		MESSAGE IDENTIFIER Identification of the type, version etc. of the message being interchanged.	M	M
	0065	Message type identifier Code identifying a type of message and assigned by its controlling agency. Refer to individual ODETTE message specifications. ENGDAT Engineering data	M an..14	M an..6
	0052	Message Version Number Version number of a message type. 2 Version	M n..3	M
	0054	Message Type Release Number	C n..3	N/U
	0051	Controlling Agency Code identifying the agency controlling the specification, maintenance and publication of the message type. Use OD for ODETTE. OD Odette	C an..2	C
	0057	Association assigned code Code, assigned by the association responsible for the design and maintenance of the message type concerned, which further identifies the message.	C an..6	N/U
0068		COMMON ACCESS REFERENCE	C an..35	N/U
S010		STATUS OF THE TRANSFER	C	N/U
	0070	Sequence message transfer number	M n..2	N/U
	0073	First/last sequence message transfer indication	C a1	N/U

Segment: **MID** Message Identification
Position: 010
Group:
Level: 0
Usage: Mandatory
Max Use: 1
Purpose: Segment which must contain the unique reference number of the basic data message and the date/time of its generation.
Notes: Example: See specific SOEMs ENGDAT Items

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
1004		DOCUMENT NUMBER Reference number assigned to the document by the issuer. The document number shall correspond to the exchange reference. See structure of file name.	M an..17	M an17
Composite		DOCUMENT DATE AND TIME	M	M
	2007	Document Date, coded Date when the document is issued and - when appropriate -signed or otherwise authenticated. Format YYMMDD	C n6	R
	2002	Time Time of the day based on the 24 hours timekeeping system. Format HHMM	C n4	R
4426		AUTHENTICATION	C an..35	N/U

Segment:	SDE Sender Details
Position:	015
Group:	
Level:	0
Usage:	Mandatory
Max Use:	1
Purpose:	A mandatory, single occurrence segment which gives details of the sender. A coded or uncoded sender information must be included and technical contact details may be given.
Notes:	Example: See specific SOEMs ENGDAT Items.

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>	
Composite		SENDER	M	M	
	3039	Party id identification	C an..20	N/U	
	3036	Party name Name of a party involved in a transaction. Required for SCANIA.	C an..35	C	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3296	Internal Identification Number allocated to a Trading Partner Internal Identification Number allocated to a Trading Partner.	C an..17	R	
	3207	COUNTRY, CODED	C a2	N/U	
	3898	ADDRESS FOR PERSONAL ROUTING	C an..35	C	
	Composite		CONTACT DETAILS	C	C
		3412	Department or Employee The department or person, within an organisational entity, specified in a preceding data element, and referred to for action. Department of sender.	C an..35	C
		3412	Department or Employee The department or person, within an organisational entity, specified in a preceding data element, and referred to for action. Name of sender.	C an..35	C
3928		Telephone Number The telephone number of a party.	C an..17	C	
3929		Telephone Extension	C an..17	N/U	
3927		Telex Number	C an..17	N/U	
3926		Fax Number	C an..17	N/U	
3930		Teletex Number	C an..17	N/U	
3896		Electronic mail address The electronic mail address of a party.	C an..70	C	
Composite			TECHNICAL CONTACT	C	N/U
		3036	Party name	C an..35	N/U
		3124	Name and address line	C an..35	N/U
		3124	Name and address line	C an..35	N/U
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
3296	Internal Identification Number allocated to a Trading Partner	C an..17	N/U		
3207	COUNTRY, CODED	C a2	N/U		



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Composite	TECHNICAL CONTACT DETAILS	C	N/U
3412	Department or Employee	C an..35	N/U
3412	Department or Employee	C an..35	N/U
3928	Telephone Number	C an..17	N/U
3929	Telephone Extension	C an..17	N/U
3927	Telex Number	C an..17	N/U
3926	Fax Number	C an..17	N/U
3930	Teletex Number	C an..17	N/U
3896	Electronic mail address	C an..70	N/U

Segment:	RDE Receiver Details
Position:	020
Group:	
Level:	0
Usage:	Mandatory
Max Use:	1
Purpose:	A mandatory, single occurrence segment which gives details of the receiver. A coded or uncoded receiver information must be included and technical contact details may be given.
Notes:	Example: See specific SOEMs ENGDAT Items.

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>	
Composite		RECEIVER	M	M	
	3039	Party id identification	C an..20	N/U	
	3036	Party name Name of a party involved in a transaction.	C an..35	C	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3296	Internal Identification Number allocated to a Trading Partner Internal Identification Number allocated to a Trading Partner.	C an..17	R an..7	
	3207	COUNTRY, CODED	C a2	N/U	
	3898	ADDRESS FOR PERSONAL ROUTING	C an..35	R	
	Composite		CONTACT DETAILS	C	R
		3412	Department or Employee The department or person, within an organisational entity, specified in a preceding data element, and referred to for action. Department of receiver.	C an..35	C
		3412	Department or Employee The department or person, within an organisational entity, specified in a preceding data element, and referred to for action. Name of receiver.	C an..35	C
		3928	Telephone Number The telephone number of a party.	C an..17	C
3929		Telephone Extension	C an..17	N/U	
3927		Telex Number	C an..17	N/U	
3926		Fax Number	C an..17	N/U	
3930		Teletex Number	C an..17	N/U	
3896		Electronic mail address The electronic mail address of a party.	C an..70	C	
Composite			TECHNICAL CONTACT	C	N/U
	3036	Party name	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3124	Name and address line	C an..35	N/U	
	3296	Internal Identification Number allocated to a Trading Partner	C an..17	N/U	



Detailed Guidelines of ENGDAT Swedish OEM Version 2.0

3207	COUNTRY, CODED	C	a2	N/U
Composite	TECHNICAL CONTACT DETAILS	C		N/U
3412	Department or Employee	C	an..35	N/U
3412	Department or Employee	C	an..35	N/U
3928	Telephone Number	C	an..17	N/U
3929	Telephone Extension	C	an..17	N/U
3927	Telex Number	C	an..17	N/U
3926	Fax Number	C	an..17	N/U
3930	Teletex Number	C	an..17	N/U
3896	Electronic mail address	C	an..70	N/U



Detailed Guidelines of ENGDAT Swedish OEM Version 2.0

Group: **EFC** Segment Group 1
Position: 028
Group:
Level: 1
Usage: Mandatory
Max Use: 99

Segment Summary

	<u>Pos.</u> <u>No.</u>	<u>Seg.</u> <u>ID</u>	<u>Name</u>	<u>Req.</u> <u>Des.</u>	<u>Max.</u> <u>Use</u>	<u>Group:</u> <u>Repeat</u>
M	028	EFC	Engineering File Characteristics Segment Group 2	M C	1	99

Segment:	EFC Engineering File Characteristics
Position:	028 (Trigger Segment)
Group:	Segment Group 1 Mandatory
Level:	1
Usage:	Mandatory
Max Use:	1
Purpose:	A mandatory repeatable segment which is used to give detailed information about the engineering data files, such as details about the exchange format and generating system. The file status data element provides information about the action the receiver is permitted to take with the information in the file, e.g. "for quotation", for "tool design" etc. This is contractual information only if related to a commercial document, e.g. a purchase order. The file sequence number data element is the same as in the virtual file name
Notes:	Example: See specific SOEMs ENGDAT Items.

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
Composite		FILE INFORMATION	M	M
	1899	File Sequence Number	M n..3	M
		Sequense number of documents included in the transmission. The number must correspond to the number specified in the file name. The sequence number is always > 1 or 001.		
	1896	File Name	C an..35	N/U
	1896	File Name	C an..35	N/U
Composite		FILE FORMAT	M	M
	6913	File Format, coded	C an..3	R
		Translation format of document included in the transmission. See ODDC 77.		
	6912	File Format	C an..35	N/U
Composite	9906	Format Version	C an..10	D
		Version of translation format.		
	1939	Data Code, coded	C an..3	R
Composite		DATA CODE	M	M
	1938	Data Code	C an..35	N/U
		The character code of the documents included in the transmission. See ODDC 78.		
		GENERATING SYSTEM	C	D
	4882	Generating System	M an..35	M
Composite		System used to generate technical document.		
	4880	Generating Systems Version	C an..35	D
		Version of generation system.		
	4889	Generating Command	C an..35	C
Composite		Command used when the document (file) is created.		
		FILE STATUS	M	M
	9909	File Status, coded	C an..3	R
3412		Describes document status e.i. the processors in which they may be used. See ODDC 79.		
	9908	File Status	C an..35	N/U
	DEPARTMENT OR EMPLOYEE	C an..35	C	
	The department or person, within an organisational entity, specified in a preceding data element, and referred to for action.			



**Detailed Guidelines of ENGDAT
Swedish OEM Version 2.0**

Composite	DATA TYPE	C	C
	4894 Data Type	M an..35	M
	Document type. Specifies whether the document is a drawing or a model.		
	4894 Data Type	C an..35	N/U
	4894 Data Type	C an..35	N/U
	4894 Data Type	C an..35	N/U
	4894 Data Type	C an..35	N/U
4891	COMPRESSION	C an..35	R
	Specifies which of the authorised compression techniques has been used.		



Detailed Guidelines of ENGDAT Swedish OEM Version 2.0

Group: **DSD** Segment Group 2
Position: 040
Group: Segment Group 1 Mandatory
Level: 2
Usage: Conditional (Optional)
Max Use: 99

Segment Summary

	<u>Pos.</u> <u>No.</u>	<u>Seg.</u> <u>ID</u>	<u>Name</u>	<u>Req.</u> <u>Des.</u>	<u>Max.</u> <u>Use</u>	<u>Group:</u> <u>Repeat</u>
M	040	DSD	Drawing Specification Details	M	1	

Segment:	DSD Drawing Specification Details
Position:	040 (Trigger Segment)
Group:	Segment Group 2 Conditional (Optional)
Level:	2
Usage:	Mandatory
Max Use:	1
Purpose:	A mandatory, single occurrence segment used to identify the document sent or the item described in the engineering file (a drawing, a numerical description of a unique component, assembly etc.). The reference is given in tag DSD/1809, the description is given in tag DSD/1808, the revision number in tag DSD/7860 and the revision date in tag DSD/2001.
Notes:	Example: See specific SOEMs ENGDAT Items.

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
3894		DRAWING COMPANY, CODED	C an2	N/U
7836		DRAWING TYPE, CODED	C an..3	N/U
1809		DRAWING NUMBER	C an..35	C
		The number of the engineering drawing. This data element must be used when there is a unique document identification on the drawing/model. If segment DSD is used the element is required for SCANIA.		
1810		DRAWING SIZE, CODED	C an2	N/U
Composite		DRAWING DESCRIPTION	C	C
	1808	Drawing Description	M an..35	M
		Description of the subject matter of an engineering drawing.		
Composite	1808	Drawing Description	C an..35	N/U
		TECHNICAL STATUS	C	C
	7860	Design Revision Number	C an..35	D
		The revision number of the design specification for an ordered article. Used when element 1809, Drawing number, is used.		
	1376	Engineering Change Number	C an..17	C
		Reference number assigned to an engineering change by the originator.		
	2001	Date, coded	C n6	C
		A particular day of the calendar year, identified by its ordinal number within a calendar month of that year. Format YYMMDD		

Segment: **TOT** Totals
Position: 065
Group:
Level: 0
Usage: Mandatory
Max Use: 1
Purpose: A mandatory, single occurrence segment used to give the total number of files.
Notes: The total number of files, including ENGDAT, included in the transmission.
 Example: TOT+2:PCE'

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
Composite		QUANTITY	M	M
	6060	Quantity Numeric value of a quantity.	M n..15	M
	6410	Measure Unit Specifier Indication of the unit of measurement in which weight (mass), capacity, length, area, volume or other quantity is expressed. PCE Piece, Each, Single	C an..3	C
Composite		AMOUNT	C	N/ U
	5004	Monetary amount	M n..15	N/U
	6345	Currency, coded	C a3	N/U

Segment: **UNT** Message Trailer
Position: 070
Group:
Level: 0
Usage: Mandatory
Max Use: 1
Purpose: Message Trailer
Notes: Example: UNT+5+1061409'

Data Element Summary

<u>Data Element</u>	<u>Component Element</u>	<u>Name</u>	<u>Base Attributes</u>	<u>User Attributes</u>
0074		NUMBER OF SEGMENTS IN A MESSAGE Control count of number of segments in a message The count shall include the message header segment (UNH) and the message trailer segment (UNT).	M n..6	M
0062		MESSAGE REFERENCE NUMBER Unique message reference assigned by the sender. Must be unique in conjunction with 0020 values in UNB. The reference number assigned should be unique not only within a single interchange but across many interchanges from the same sender for a sufficient time to avoid any confusion.	M an..14	M

7 Odette Data Codes ODDC

7.1 ODDC 77

CODE DEFINITION

NAT	Native
IGS	IGES
VFS	VDAFS
VIS	VDAIS
SET	SET
UNI	UNISURF
SPA	SPAC
STP	STEP
DXF	DXF
TI4	TIFF CCITT Gr4 raster format
TI3	TIFF CCITT Gr3 raster format
CAP	CALS Type1 Product CCITT Gr4 raster format
CAT	CALS Type1 TechPub CCITT Gr4 raster format
FOR	Formtek Gr4 raster format
FRM	FramMaker text format
INL	Inter leaf text format
WOW	Word for Window text format
WOP	Word Per fect text format
EXE	EXE (PC) text format
CGM	CGM pr inter format
TIP	TIFF pr inter format
PSC	Poster ipt pr inter format
CAL	CALCOMP pr inter format
BEN	BENSON pr inter format
HPG	HPGL pr inter format
DMI	Input
DMO	Output

7.2 ODDC 78

CODE DEFINITION

ASC	ASCII, 7-bit
646	ISO 646 IRV, (International Reference Version)
885	ISO 8859-1, (Latin-1)
EBC	EBCDIC
BIN	Binary
OTH	Other.CODES FILE STATUS PAGE: 1/1



7.3 ODDC 79

CODE DEFINITION

QUO	For offer/quotation
TOD	For tool design
TOM	For tool manufacturing
MAN	For manufacturing
INF	For information only
NED	New design revisions
ENC	For engineering consultation
USP	Unspecified



8 SAAB Automobiles specific ENGDAT items



9 SCANIA Specific ENGDAT items



10 AB Volvo's Specific ENGDAT items

10.1 ODDC Codes

Volvo uses the ODDC codes in order to decrease error occurrences and to make automatic processing of the ENGDAT messages and the Engineering documents possible. The use of ODDC codes at Volvo, demands that our supplier's EDI applications must be able to read and create ENGDAT messages containing ODDC codes. ODDC code tables; see: 7 Odette Data Codes ODDC

10.1 Internal code per company (UNB 0008(0014))

Can be used to address a unit/business process within a company. Personal routing is not allowed in the internal code.

11 Volvo Cars Specific ENGDAT items

11.1 ODDC Codes

Volvo uses the ODDC codes in order to decrease error occurrences and to make automatic processing of the ENGDAT messages and the Engineering documents possible. The use of ODDC codes at Volvo, demands that our supplier's EDI applications must be able to read and create ENGDAT messages containing ODDC codes. ODDC code tables; see: 7 Odette Data Codes ODDC

11.2 Internal code per company (UNB 0008(0014))

Can be used to address a unit/business process within a company. Personal routing is not allowed in the internal code.

11.3 Volvo Car Examples of application

From Volvo Cars:

UNH+352672+ENGDAT:2::OD'	Message header
MID+BP2TA000VCC-43589+040203:0840'	Document number, date and time
SDE+:VOLVO CARS::::BP2TA++PC12345 +97840:MICHAEL SMITH:46 31590000 ::::MICHAEL.SMITH@VOLVOCARS.COM'	Sender information. Party name, Supplier number, department, employee, telephone number and the designer's internal electronic address.
RDE+:DESIGN COMP::::ABCD1++ ROUTING+DEP:JOHN JONES:46 311234567 ::::JOHN.JONES@DESIGNCOMP.COM'	Receiver information. Party name, Supplier number, Department, employee and telephone
EFC+002+TXT+ASC+EXTER:2.9+ENC++FILE+ ODZIP001'	Engineering File characteristics
DSD+++DELNOTE.PO++FOLJESEDEL MED POSITIONS-INFORMATIO:DELIVERY NOTE WITH POSITIONAL INFOR+:010123'	Drawing specification details
EFC+003+NAT+BIN+CATIA:V4R2M2+ENC'	Engineering File characteristics
DSD+++08684043-0++MILL/DESI-WHEEL 7'	Drawing specification details
TOT+7:PCE'	Totals of files including the ENGDAT message
UNT+5+1061409'	Message trailer

To Volvo Cars:

UNH+PPM0020977001+ENGDAT:2::OD'	Message header
MID+140129162659PC163+040129:1626'	Document number, date and time
SDE+:DESIGN COMP::::ABCD1++ ROUTING+DEP:JOHN JONES:46 311234567 ::::JOHN.JONES@DESIGNCOMP.COM'	Sender information. Party name, Supplier number, department, employee and telephone number.
RDE+:VOLVO CARS::::BP2TA++PC12345 +97840:MICHAEL SMITH:46 31590000 ::::MICHAEL.SMITH@VOLVOCARS.COM'	Receiver information. Party name, Supplier number, Department, employee, telephone and the designer's internal electronic address.
EFC+003+NAT+BIN+CATIA:V4R2M2+ENC'	Engineering File characteristics
DSD+++08684043-0++MILL/DESI-WHEEL 7'	Drawing specification details
TOT+7:PCE'	Totals of files including the ENGDAT message
UNT+5+1061409'	Message trailer