

Volvo's Transport Label for Sequence material

Version 1.1 (190702)

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Paper, Size and Materials

The format of the Volvo Global Sequence Label is A5 (210x148 mm) (cf. figure 1.) The label may not be printed on larger paper size, e.g. A4 (cf. figure 2.)

The label paper must be white with black printing.

The label material has to have a weight of not less than 160-170 g/m² and that it is weather resistant. This is to assure information being readable in the complete supply chain. If adhesive label is used and attached on the Transport package, the label material has to have a weight of not less than 80 g/m² and that it is weather resistant.

Adhesive labels may be pressure-sensitive or dry-gummed as long as the adherence to the package surface is assured and that the Volvo Global Sequence Label is easily removable from the Transport package after usage.

The label must be durable enough to ensure readability at it's destination, i.e. being weather resistance.



Printers and Software

To ensure readability of the bar codes, a very high print quality is demanded. Therefore Volvo recommends using either a **Thermo** or **Thermo Transfer** printer to reach acceptable quality.

If a **Laser** printer is used to print the Volvo Global Sequence Label it is necessary to follow the manufacturer specification according to maintenance and paper material. This since a Laser printer is more sensitive to environment it is working in.

Matrix printers are NOT allowed in any supply chain to Volvo because of low quality aspects.

It is most important that the recommended maintenance of the printer is followed according to the given instruction by the printer manufacturer.

If the printer is located in a very dirty/dusty environment it is recommended that the maintenance of the printer is carried out more often than the recommendation says.

If the environment is of extreme character it is needed to take in consideration adding a "hood cover" to the printer.

It is recommended that within a purchase of a printer also include a support agreement with the printer supplier. If changes or a modification is needed of the Volvo Global Sequence Label, this support is valuable not to interfere with any part of the supply chain.

To secure that a change of printer or software does not interfere with any aspects of the supply chain, Volvo requests that the supplier inform the affected goods receiving sites. There might be a need of a new verification of the Volvo Global Sequence Label.

Data

Data Area Layout

Data Area

The size of each data area is defined to fit the content, taken in consideration of font size, bar code heights and dimensions.

Outer border line (frame) should not be printed on the Volvo Global Sequence Label. This to provide the best reading possibilities of the bar code (see Quiet zone in chapter Bar code symbologies). Each data area should be separated by thin lines.

The illustration below shows the layout of the Volvo Global Sequence Label, figures in millimeter (mm).



Notice! Not actual size.

Characters

Any readable character set can be used as long as the text will fit, but our recommendations are the following:

- Font: Arial Narrow. Volvo Global Sequence Label/ 1234567890
- Character Set: ISO 3098-1

Titles and Identifier Codes

In the upper left corner of each data area, the Data Area titles shall be printed. This information is allowed to be printed in any language. Font size to be used is 1.5 mm.

Data Identifiers shall be printed as a part of the Data area title, at the end of the title and in brackets, e.g. Serial (S). Further information regarding Data Identifiers is to be found in the Data Area Table, column Data Identifiers.

Data Area Content

Data printed on the Volvo Global Sequence Label must be consistent with the data collected from the Sequence message sent (DELJIT) and in conjunction with the ASN message (DESADV).

The data information in readable text must be printed above and in conjunction with the bar code, e.g. Advice note number.

Conditional Data Areas (Occasionally or Dependent information) which are not required by any agreement between Volvo and the respective supplier, must be left blank. See Data Area Table in chapter 5.1.

<u>Non-significant (leading or initial) zeros and blanks/spaces in the data string should be</u> suppressed/deleted, when the bar code and/or human readable characters are printed.

However it is a requirement that the data matches what has been sent in DESADV.

The Data Areas are numbered from 1 to 19 and should be read together with information given in Data Area Table and Data Area Sections.

Notice! Not actual size.

Receiver	Dock / Gate
1	2
Advice Note No (N)	Supplier Address 4
3	Net Wt (KG) 5 Gross Wt (KG) No of Units 7
Vehicle Id	
SEQ ¹⁸	
Quantity (Q)	Description (10) (8)
9	Logistic Reference
Supplier (V)	(11) (19)
(12)	Date (13) Eng. Change (14)
Serial (S)	(16) (17)

Data Area Table

		LABEL INFORMATION				
	Data Area Content	User Attributes	Field Length Excl. data Identifiers	Bar code Size Height (mm)	Text Size height (mm)	Data Identiifiers
	SHIPPING SECTION					
1	Receiver	_				
	Volvo unloading location (name and address)	R	2 lines x an20		7	
2	Dock/Gate Volvo final delivery point	R	an12		13	
3	Advice Note No. Suppliers Advice note number	R	an8	13	7	N
4	Supplier Address Suppliers name and adress	R	an29		5	
5	Net Weight Material weight within Transport unit	D	n5		7	
6	Gross Weight Total Transport unit weight.	R	n5		7	
7	No. of units Number of packages within one transport unit	D	n5		7	
	PARTS IDENTIFICATION SECTION					
8	Part No. Volvo's Part number (if only one partnumber in bandling unit)	П	an 24		5	
		D	an24		5	
9	Package or Transport unit quantity	R	n10	13		Q
	Description					-
10	Volvo's part description	R	an22		7	
11	Logistic Reference The sequence number from DELJIT SEQ 1050 (first and last per handling unit)	R	an10		7 - 13	
12	Supplier Supplier identity given by Volvo	R	an8	13	5	V
13	Date Label date	R	n7		7	
14	Engineering Change Buyer's engineering change number	D	an14		7	
15	Serial No, Master Label No.					
	Supplier Transport unit identification number.	M	n9	13	5	S/M/G
16	VCE only	D	an 10	13	5	ĸ
<u> </u>	Handling unit No		an 10	13	5	IX.
17	Sequential number for each handling unit and defined per use point (LOC+159). Generated by supplier starting with 1 to 999 then					
	Mandatory for Trucks (all brands)	D	n 3		13	
18	Vehicle Id When shipping for more than one chassi number. The first and last chasssi per handling unit should be given. The text SEQ shall be printed as examples	D	20. 22		7 13	
┣──	Silow. First start Data/time	7	a1123		1-13	
19	Sent in DELJIT. Use the erliest date time for the parts in a handling unit. Two lines, first line with Date and a second line with Time	R	n10		7	

User Attributes:

- R = Required
- D = Dependent
- N = Not Used

Field Length:

- an = alpha numeric value
- a = alpha value
- n = numeric value
- ..10 = 1-10 positions
- 10 = exact 10 positions

Data Identifiers

- N = Advice Note Number
- Q = Quantity

- V = Supplier ID S = Simplified Handling Unit M = Homogenous Handling Unit
- G = Mixed Handling Unit
- K = Customer Order Number

Data Area Sections

Shipping section

1. Receiver

Alphanumerical human readable text Designated by Volvo The destination name of Volvo's unloading location.

2. Dock/Gate

Alphanumerical human readable text Designated by Volvo This information must be flexible as it might be changed from one shipment to another due to changes in production. The information must be taken from the DELJIT requesting the shipment.

3. Advice note No. (N)

Bar Code and Alphanumerical human readable text Designated by Supplier Within Volvo the Advice Note Number is used and matched to the information given in the Advanced Shipping Note (Global DESADV). The number may not be repeated within 12 months.

4. Supplier address

Alphanumerical human readable text Designated by Supplier Name and shipping address of the supplier and country of origin.

5. Net weight

Numeric Value Designated by Supplier Weight of goods in (kg) excluding transport packaging. Unit of measurement must be printed in the title of the field in brackets.

6. Gross weight

Numeric Value Designated by Supplier Weight of goods in (kg) including transport packaging.

7. No. of units

Numeric Value Designated by Supplier Number of boxes on the transport unit. Is mainly used on Small box shipments.

Parts Identification Section

8. Part No.

Alfa Numeric human readable text Designated by Volvo Part number is designated by Volvo for the product in the package.

9. Quantity (Q)

Bar Code and Numeric human readable text Designated by Supplier Quantity in the package shall be according to Volvo packing instruction and its unit load or a multiple of it.

Default the unit of measurement is pieces (PCE) and is not needed to be given. However, if it is kg, pairs, meters etc., the type code must be given in human readable form. When used, the unit of measurement must be printed directly to the right of the human readable quantity.

10. Description

Alphabetical human readable text Designated by Volvo Description of articles or products is according to what is given on the drawing.

11. Logistics reference

Designated by Volvo The sequence number from DELJIT SEQ 1050. The first and last sequence number given in DELJIT for the parts packed per S/M/G unit Use as large font size as perimitted without truncating data

12. Supplier (V)

Bar Codes and Alphanumerical human readable text Designated by Volvo The supplier code of the Manufacturing site.

13. Date

Alphanumerical human readable text Designated by Supplier Date of despatch (stated at first hand) or date of production. The date must be printed in the format YYMMDD (Y = year, M = month, D = day) preceded by the character "D" (Despatch date) or" P" (Production date).

14. Engineering change

Alphanumerical human readable text Designated by Volvo To specify engineering changes. Information may be coded (e.g. P-04) or in clearer (e.g."pre serial" etc).

15. Serial No, Master label No. (S, M or G)

Bar Code and Numeric human readable text Designated by Supplier The serial number must be a unique number (not necessarily in sequential order) assigned by the supplier. The number may not be repeated within 12 months. Identifiers S, M or G are assigned according to label usage.

16. Customer Order No. (K)

Bar Code and Characters Designated by Volvo The Order number from DELJIT RFF ON 1154 For VCE only

17. Handling unit No.

Designated by Supplier Sequential number for each handling unit and defined per use point (LOC+159). Generated by supplier starting with 1 to 999 then starts over.

Mandatory for deliveries to Trucks (all brands)

18. Vehicle Id

Designated by Volvo The chassi id from DELJIT GIR VV 7402 When there are parts for more than one Chassi the first and last chassi per handling unit should be printed Please note that the sequence label have the text "**SEQ**"

19. First start Date/time

Designated by Volvo Sent in DELJIT use the erliest date time if different in a handling unit. Two lines first with Date second with Time

Data Area Content Cross Reference Table

(EDI Global messages vs. Volvo Global Sequence Label)

DELFOR - NAD 3036 and -NAD 3164 (ST)	Receiver VOLVO CE PLANT LOCATION PLANT COUNTRY	ABCD 1234 56	DESADV DELJIT	′ - LOC 3225 (159) - LOC 3225 (159)
DESADV - BGM 1004	Ander Meil No (1) 12345678	Supplier Company, Location Net W((K) 82 Cross WI (KC) No of Units 123 1		
DELJIT –GIR 7204 (VV) DESADV –GIN 7402 (VV)	SEQ EWR150E	E 320443		
DESADV -QTY 6060 (52)*	Quantity (Q)	Description Part 5010613214 Logistic Reference	DELJIT	- IMD7008 + LIN 7140
	Supplier (*) 12345	021 170421 0630	DELJIT	- SEQ 1050
DESADV - NAD 3039 (SF)		Date D161121	DELJIT	- DTM 2380 (194)
DESADV - GIR 7402** DESADV - RFF 1154 (AAT)**	terur(*) 123456789		DELJIT	- RFF 1154 (ON)

*Depending on Transport Package structure, see page 9. **Depending on Transport Package structure, see page 9.

Example of sequence labels



G label



Bar Code

Bar Code Symbologies

Bar codes must be of the 3-of-9 (code 39) type with the following requirements:

Code Configuration

The format for each bar code-element is: Start character, Identifier (Data Identifier), Data characters and Stop character.

All bar coded areas are printed left justified.

Inter-character gap

The space between two characters in code 39 (the inter-character gap) should be as close to the average narrow element width as is practical.

Quiet zones

Begin and end margins (quiet zones) must be at least <u>6.4 mm</u> so that no line or similar makes the decoding of the bar code impossible.



Bar code heights

The height of the bar code must be 13 mm. This to give the best possible scanning possibilities as the area allows.

Narrow element/Ratio

Narrow element is the size of the smallest bar element in the bar code. The Narrow element can also be named as X-dimension.

- Narrow element is allowed to be set between 0,33 0,43 mm.
- Volvo recommends the modulation to be set to 0.33 mm.
- (Some printers having minimum 200 dpi the recommendation is 0,375 mm.)

The Ratio is the proportion between narrow and wide element in the bar code.

• Volvo recommends using the following table to set the Ratio. This to use the most of the data area and make the bar code less vulnerable.

Narrow element/X-dimension	Maximum Ratio
0,33	3,0
0,36	2,8
0,40	2,4
0,43	2,2

Bar Code Quality

Quality

Volvo is leaning on the ISO/IEC 15416 –standard, Bar Code Quality Test Specification Linear Symbols.

- Minimum Overall Symbol Grade is set to **B**
- Nominal measuring Aperture is set to be 6 mil
- Wave length of light is set to 660 nm

In all this gives:

B/6/660

The result of the Overall Symbol Grade is defined with the letters from A to F (E is excluded), where A is an excellent result and F is a not approved result of the quality verification.

The f	following	7	parameters	are	measured:
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Parameter	Grade scale	Explanation	Volvo
Reference code	A or F	Wrong set up of bar code	Α
Symbol contrast	A, B, C, D or F	The difference between the highest and the lowest	≥B
		reflectance in the whole symbol, including light	
		margins	
Edge contrast	A of F	The worst reflectance difference between a bar and	Α
		a space in a symbol	
Modulation	A, B, C, D or F	The ratio between edge contrast and symbol	≥B
		contrast	
R.min/R.max	A or F	The reflectance of the black bar must be lower than	Α
		half of the maximum reflectance in the symbol	
Defects	A, B, C, D or F	Dirty label or white lines/dots in bar code	≥B
Decodability	A, B, C, D or F	How much of the tolerance has been used	≥B

Volvo expect ALL parameters to be measured as an Overall Symbol Grade as minimum B.

Summarize of Bar code specification:

Type of bar code	Code 39
Modulation (X-dim./narrow element)	0,33 – 0,43 (recommended 0,33)
Ratio	1:2,2 – 1:3,0 (recommended 3,0)
Print contrast signal	>= 75%
Quiet Zone	> 6,4 mm
Colouring of code	Black
Bar code height	13 mm
Bar code orientation in thermo printing	90 degrees to thermomodul
Overall Symbol Grade	Minimum B

Transport label structure

The Odette organisation has identified two levels of using an Transport Label.

Package and Handling Unit (Two key expressions concerning the packaging)

Package Unit

(S-Label)

A unit in which the article itself is loaded. Always placed on a Non Simplified Handling Unit

• Handling Unit (Handling unit Labels)

• Simplified Handling Unit (S-Label) Handling unit which is a package unit at the same time.

• **Non Simplified Handling Unit** Handling unit containing more than one package units.

Non Simplified Handling Unit can be of two kinds:

- Homogenous Handling Unit (M-Label) Contains the same article number in all the package units.
- Mixed Handling Unit (G-Label) Contains more than one article number.

For further information please see the Delivery Manual issued by your customer.

Unique item label

There is no standardization of the layout (of the Unique Item Label). It can differ in many ways due to the different sizes and materials of parts.

The unique item label layout should therefore be decided in agreement with the goods receiver (consignee).

Below is an example of the Unique Item label, containing the basic information:

Vehicle no.	Date & Time	Part no./Module no.
744443	130517 0815	21562461
Additional Internal Destination LB21 27100 020	Serial no. 100000006	L-STWP

8 Example of Unique Item (S) Label used in sequence deliveries.