# VOLVO

## **STANDARD**

## VCS 5051,17

## **Volvo Car Corporation**

Established Date: Issue: Page: 2017-03 15 1(29)

MARKING AND DESIGNATIONS

## Text marking on parts

Marking of parts

#### Orientation

This issue differs from issue 14 in that:

The Swedish text has been removed

Branding with Polestar has been clearified.

The brand SAMMAN has been set to "Not for new design"

A new brand SPACMA has been introduced.

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## 1 Scope and field of application

This standard specifies how parts shall be marked or branded. Which parts shall be marked or what trademark information the marking shall contain is not addressed in this standard. This is described in Volvo Mandatory Requirement VMR-000671 (only for Volvo Cars internally).

The standard applies to direct marking on parts. In relevant sections, it may also apply to indirect marking, such as marking of packaging.

#### 1.1 Location and visibility

The marking shall be located so that the function of the part is not affected and the marking can be read when required.

The visibility of the marking when viewed from a customer's perspective during normal use of the vehicle shall follow the requirement in Volvo Mandatory Requirement VMR-000671 (only for Volvo Cars internally).

#### 1.2 The supplier's brand marking – when applicable

The general rule is that a manufacturer/supplier must not have his trademark/logotype on his part. However, European law sometimes allows a supplier trademark/logotype on our products. In these cases, Volvo Cars demands compliance with the following conditions for this to happen:

All supplier brand marking shall be approved by Volvo Cars Brand Protection department. Exemption approval is required. See section 2.1

Only tier-1 supplier brand marking may appear

The Volvo brand marking must be equally or more prominent than the tier-1 supplier's, irrespective of whether the component is installed or not in the vehicle

The tier-1 supplier's brand marking shall be clearly separated from the Volvo brand marking

The tier-1 supplier's brand marking shall not be visible to the customer during normal vehicle use

Other tier-1 supplier marking, e.g. to facilitate handling, may be accepted, provided that this does not jeopardize the function of the part. However, such marking shall be placed clearly separated from Volvo Cars' marking and must not be visible to the customer during normal use of the vehicle. The supplier's marking may only contain information that will facilitate Volvo Cars' handling of the part. The supplier's part number, or similar, shall not be included in the marking.

#### 2 Indication in design-engineering documentation

In design-engineering documentation, the marking shall be indicated as follows:

The marking symbol consists of a square. It is placed so that its diagonals are parallel to the sides of the drawing. The surface onto which the marking shall be applied is shown with a leader line drawn from one of the corners of the square. The leader line terminates in an arrow (edge of part) or a point (surface of part) as shown by the example in Figure 1. For indication on the opposite (hidden) surface, a dashed leader line shall be used as per Figure 1.

If several different markings have been indicated, they can be marked by a digit in the symbol for marking as shown by the example in Figure 1.

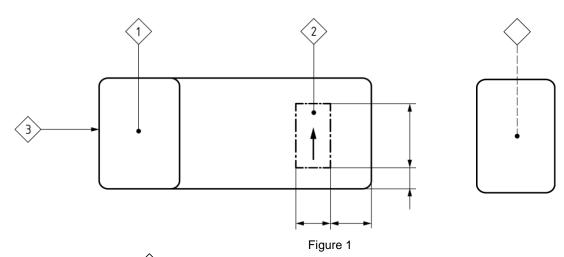
If the marking area shall be drawn, this must be indicated with a thick chain line. It shall be dimensioned where necessary in accordance with the example in Figure 1.



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The marking symbol  $\checkmark$  with an arrow or with a point shall be placed adjacent to the relevant figure in the drawing section.

The marking requirement shall be expressed as a code and shall, if possible, be placed near the symbol. See example below.

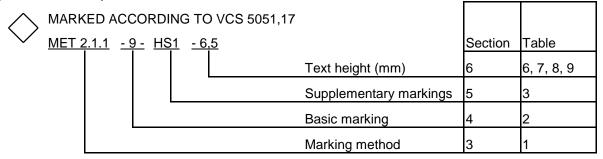


Figure 2

The marking requirement may also be given as a note in the text space.

If the marking text is to be read in a specific direction, an arrow showing the reading direction shall be indicated, see Figure 1.

In addition to this, the number of lines necessary for marking (when deviating from section 6) or when colour requirements are given (see section 7.1.1) can be specified in plain text.

In common design-engineering documentation (e.g. multi-part drawings) where identical parts are separated by marking with or without trademark, this shall be indicated in accordance with the following examples:

#### Alternative 1

For part number 12345670:

 MARKED ACCORDING TO VCS 5051,17 MET 1.1 – 9 – 6.5

 For part number 12345671:

 MARKED ACCORDING TO VCS 5051,17 MET 1.1 – 9NB – 6.5





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#### Alternative 2

Part Number	MARKED ACCORDING TO VCS 5051,17
12345670	MET 1.1 – 9 – 6.5
12345671	MET 1.1 – 9NB – 6.5

See section 9 for examples of marking.

## 2.1 Indication in design-engineering documentation for parts with brand marking exemption

Exemption from this standard can be made.

An exemption may only be made after approval by Volvo Cars Brand Protection department. (e-mail: <a href="mailto:bpvolvo@volvocars.com">bpvolvo@volvocars.com</a>)

Application request for exemption:

Parts Trademark Branding Exemption Request.

(Only for Volvo Cars internally)

If an exemption is granted, the following text note with the exemption's approval identification number shall be indicated in the design-engineering documentation.

This	part has	received	BRANDING	<b>EXEMPT</b>	TON from	standard	VCS 5	5051,17
numi	ber:							

For bulk material such as adhesive, paint, fuel, etc., no exception needs to be indicated. A general exception, number 16102501, applies.

## 3 Marking methods

The method number shall be indicated by one, two or three digits, separated by point(s). If only one digit has been given for a method comprising alternative marking variants as per Table 1, any of the alternatives given is acceptable.

Non-durable marking (methods 3 and 4) may only be used in exceptional cases, for example, when the marking is protected by way of its placement.

Table 1

Method No MET	Marking method	Remarks
1	Marking in connection with casting, forging or other type of forming:	Parts and blanks formed by casting, injection moulding, forging or some other method
1.1	Marking text raised on the finished part	
1.2	Marking text indented on the finished part	
1.3	Marking text raised in an indented marking area on the finished part	The raised text in the indented area shall not go above the normal surface of the part. The depth shall be indicated where required.
2	Various marking methods:	Used, for instance, for sheet and leather parts, and when remarking cast and forged parts. In unfavourable cases, this can deteriorate tensile strength.



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Method No MET	Marking method	Remarks		
2.1.1	Punching (through pressing, rolling or with strokes)			
2.1.2	Embossing			
2.1.3	Marking using a vibro pen			
2.2.1	Etching (with acid)			
2.2.2	Etching (electro-chemical)			
2.3.1	Engraving			
2.3.2	Scribing			
2.4	Sparking (electrical arc scribing)			
2.5	Marking using a laser beam			
3	Marking plate:	Used, for instance, for certain pressed sheet metal parts and for components bought in the finished stage.		
3.1	Screwed plate			
3.2	Riveted plate			
3.3	Spot-welded plate			
3.4	Soldered plate			
4	Adhesion:	Used, for instance, for extruded plastics and rubber parts and for components bought in the finished stage. As a general rule, these types of non-permanent markings shall be avoided.		
4.1	Label (adhesive)			
4.2	Decal (decalcomania)			
4.3	Band (tape)			
5	Stamping:	Used, for instance, for mandrel vulcanized rubber parts as well as for parts made of plastic, fibre, paper, leather and cork. The VOLVO, POLESTAR and SPACMA logotype can be printed on the original material. May be carried out as screen print.		
5.1	With dye			
5.2	With ink			
5.3	On attached textile patch			
6	Marking on rubber:			
6.1	Vulcanization	Mandrel vulcanized rubber parts		
6.2	Hot stamping	Free vulcanized rubber hose		



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## 4 Basic markings

This section describes the basic markings used for text marking on parts. In addition to this, supplementary markings according to section 5 can be used.

#### 4.1 Volvo brand marking

All our brand markings have a fixed graphic form, and the distances between the various elements must not be changed. The brand markings may not occur in running text or be changed by the addition of text, pictures or symbols.

When a brand marking is reproduced by casting, punching, embossing, etching, or engraving, unless otherwise stated, the letters shall be filled and evenly raised or lowered, depending on marking method, in relation to the surrounding surface

#### 4.2 Part number

The identity of the part (the part number) shall be given in the marking text.

The clearance all around the part number shall be as defined in section 6.

In certain cases, the marking text contains another part number than that of the part in question (e.g. the part number of the assembly in which it is to be included). In such cases, the number shall be written out in full next to the marking code (see example in section 6).

#### 4.3 Country of origin

Parts that require indication of the country of origin in the marking shall include the words "MADE IN", followed by the actual name of the country of origin in capital letters.

The name of the country of origin shall correspond to the short name in English stated in ISO 3166-1.

Unless otherwise agreed, no abbreviation or Alpha-3 code of the country name is permitted. For example, USA shall preferably be indicated as "UNITED STATES".

#### 4.4 Special requirements for the United States

Special requirements apply to parts of foreign origin brought into the United States.

According to Section 304 of the "Tariff Act of 1930", all imported parts must have country of origin marking,see <a href="Code of Federal Regulations">Code of Federal Regulations</a>, Title 19 – Custom Duties, Part 134 – Country of Origin Marking.

#### 4.5 Normal marking

In normal cases, the marking information in basic marking 9, 9H, 9P, 9NB,13, 13H, 13P or 13NB (see

Table 2 Normal basic marking) shall be kept together (see section 6).

Basic marking 13, 13H, 13P or 13NB shall only be used on parts when legally required.

When there is not enough space for the marking to be kept together in accordance with section 6, the marking information in basic markings can be spread out. Example of indication in design-engineering documentation is given in section 9, example 2.



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	Table 2 Normal basic marking				
Designation	Marking information	Exempel			
9	The VOLVO logotype <sup>1)</sup> + part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin	TOLTO  12345678 FQC6A <pp> MADE IN SWEDEN</pp>			
13	The VOLVO logotype <sup>1)</sup> + part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin	VOLVO 12345678 SUPPLIER NAME <pp> MADE IN SWEDEN</pp>			
9H	The SPACMA logotype <sup>1)</sup> + partner part number + Volvo Cars part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin	SP/WO 9876543210 12345678 FQC6A <pp> MADE IN GERMANY</pp>			
13H	The SPACMA logotype <sup>1)</sup> + partner part number + Volvo Cars part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin	SP/WO 9876543210 12345678 SUPPLIER NAME <pp> MADE IN GERMANY</pp>			
9P	The Polestar logotype <sup>1)</sup> + part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin	Polestar 12345678 FQC6A <pp> Made in Sweden</pp>			
13P	The Polestar logotype <sup>1)</sup> + part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin	Polestar 12345678 SUPPLIER NAME <pp> Made in Sweden</pp>			
98	The SAMMAN logotype <sup>1)</sup> + partner part number + Volvo Cars part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin  SAMMAN-logotypen <sup>1)</sup> + partners artikelnummer + Volvo Cars artikelnummer + leveranters ID <sup>2</sup> + atervinnings- och majorialmärkning (i tillämpliga fall) + ursprungsland	SAMMAN 981(54)210 12345678 FQC6A <pp> MADE IN GERMANY</pp>			





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Designation	Marking information	Exempel
13S	The SAMMAN logotype <sup>1)</sup> + partner part number + Volvo Cars part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin SAMMAN-logotypen <sup>1)</sup> + partners artikelnummer + Volvo Cars a tikelnummer + leverantörs-ID <sup>3)</sup> a ervinnings- och materialmä ki litg (i tillämpliga fall) + ursprungsland	987654345 10245678 SUPPLIER NAME <pp> MADE IN GERMANY</pp>
9NB	Part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin	12345678 FQC6A <pp> MADE IN SWEDEN</pp>
13NB	Part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin	12345678 SUPPLIER NAME <pp> MADE IN CHINA</pp>
9NBP	Partner part number + Volvo Cars part number + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin	9876543710 12545678 FQC6A <pp> MADE IN CHINA</pp>
13NBP	Partner part number + Volvo Cars part number + supplier ID <sup>3)</sup> + recycling and material designations (if applicable) + country of origin	9876543210 12345678 SUPPLIER NAME <pp> MADE IN GERMANY</pp>

- 1) Note the clear-zone requirement (equal to the height of the logotype).
- 2) The supplier code shall be used as supplier ID.
- 3) The supplier name or the registered abbreviation of the supplier designation shall be used as supplier ID.

#### 4.6 Reduced marking

This section shall be used when basic marking 9, 9S, 9NB, 13, 13S or 13NB cannot be applied due to lack of space, in accordance with section 4.1.

The supplier is responsible for ensuring that omitted marking information when reduced marking is applied instead is indicated in some other relevant manner (e.g. label on package).

Supplementary markings cannot be made when reduced basic marking is applied.



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Table 3
The reduced basic markings are given in order of priority

	The reduced basic markings are given in order of phonty
Designation	Marking information
10	The VOLVO logotype <sup>1)</sup> + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin
11	The VOLVO logotype 1) + recycling and material designations (if applicable) + country of origin
3	The VOLVO logotype 1) + country of origin
5	The VOLVO logotype 1) only
10H	The SPACMA logotype <sup>1)</sup> + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin
11H	The SPACMA logotype 1) + recycling and material designations (if applicable) + country of origin
3H	The SPACMA logotype 1) + country of origin
5H	The SPACMA logotype 1) only
10S	The SAMMAN logotype <sup>1)</sup> + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin
11S	The SAMMAN logotype 1) + recocling and material designations (if applicable) + country of origin
3S	The SAMMAN Togutyp 10 - country of origin
5S	The SAMMAN logotype 1) only
10P	The Polestar logotype <sup>1)</sup> + supplier ID <sup>2)</sup> + recycling and material designations (if applicable) + country of origin
11P	The Polestar logotype 1) + recycling and material designations (if applicable) + country of origin
3P	The Polestar logotype 1) + country of origin
5P	The Polestar logotype 1) only
10 NB	Supplier ID 1) + recycling and material designations (if applicable) + country of origin
11 NB	Recycling and material designations (if applicable) + country of origin
12	Country of origin

- 1) Note the clear-zone requirement (equal to the height of the logotype).
- 2) The supplier code shall be used as supplier.

  If due to legal reasons, the supplier name or registred ID can be used.

#### 4.7 Free-text marking

Free-text marking refers to other marking information than that specified in sections 4.1 and 4.2. In these cases, a specification of what information to include in the marking shall be given. See examples 5 and 6 in section 9.

The designation "0" used for free-text marking can, as an alternative, also be used in those cases when no basic marking shall be applied.

Table 4			
Designation	Marking information		
0	Free-text marking		



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#### 4.8 Rules for all basic markings

The marking text shall show the identity of the part in production (the production part number). For spare parts in the aftermarket, a unique part number shall be used or, if applicable, the same part number as in production. The component's part number shall be provided on all spare parts when delivered to production and when included in any assembly, system, or module.

In certain cases, the marking text contains another part number than that of the part in question (e.g. the part number of the assembly in which it is to be included). In this case, the number shall be written out in full next to the marking code.

In cases when the single part shall not have any marking, since the marking is to be found on the assembly, or, alternatively, on the blank, one of the following text notes shall appear in the drawing:

NO MARKING ON THIS PART. MARKING ACC. TO VCS 5051,17 ON THE ASSEMBLY DRAWING

NO MARKING ON THIS PART. MARKING ACC. TO VCS 5051,17 ON BLANK DRAWING

When an assembly is marked by means of the included parts being marked, the assembly drawing shall contain the following supplement text note:

MARKING ACC. TO VCS 5051,17 ON THE SINGLE-PART DRAWINGS

The supplier code is a max. 5-character, alphanumerical code. The code can be obtained from the purchasing department. The supplier code shall always be connected to tier-1 suppliers, and not to any other suppliers.

Tier-1 suppliers must ensure traceability to their respective sub-suppliers. This shall be coordinated with the purchasing department.

Recycling and material markings shall be in accordance with VCS 5052,42.

Generic identification and marking of rubber and elastomer components shall be in accordance with VCS 5052,220.

The marking shall include the name in English of the country of origin in accordance with ISO 3166-1:2006.

However, abbreviations and variant spellings which unmistakably indicate the name of a particular country, such as Gt. Britain for Great Britain or Luxemb for Luxembourg, are acceptable. Variant spellings which clearly indicate the English name of the country of origin, such as Brasil for Brazil and Italie for Italy, are also acceptable.

If a part is to be marked with the name of a country other than the country of origin (e.g. country of assembly), this marking text shall be written out in full next to the marking code. E.g.: "Assembled in ...".

#### 4.9 Coloured parts

In cases where a coloured article is manufactured in the same manner regardless of colour, the marking shall follow one of the below methods:

The respective coloured part's Part Number is indicated on the Part. Supplementary marking C1

All coloured part Part Numbers in a horizontal row on the Part, each respective Part Number separated by a space.

Supplementary marking C2





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All coloured part Part Numbers in a vertical column on the Part. The distance between the Part Numbers shall be the same as the Part Number text height.

Supplementary marking C3

## 5 Supplementary markings

Table 5

		l able	
Designation	Marking information	Example of	Remarks
		marking text	
C1	Coloured part's Part Number	12345678	The respective coloured part's Part Number on the Part.
C2	Coloured part's Part Number	1234567 1123456	All coloured part Part Numbers in a row, separated by a space.
C3	Coloured part's Part Number	12345678 32145678 34567891	All coloured part Part Numbers in a vertical column
G1	Tool status matrix	(see Figure 8)	Matrix with trim statuses A to B and sequence numbers 1 to 4.
G2	Tool status matrix	(see Figure 9)	Matrix with trim statuses A to C and sequence numbers 1 to 5.
G3	Tool status matrix	(see Figure 10)	Matrix with trim statuses A to D and sequence numbers 1 to 9.
H	Part version suffix	A	AA = part version suffix AA, etc., for the part in question. For formed plastics parts, this may be replaced by a square field as shown in Figure 3 with dimensions in accordance with Table 6. In cases where there are more than 15 part versions, the 16 <sup>th</sup> and following versions may be marked outside the square with the same spacing as for the marking in the square fields. For cast parts, it may be replaced by a date clock on an ejector plane. Great restrictivity shall be observed when using the designation H.
J	Right-hand part	RH	Right-hand part
J1	Right-hand drive	RHD	Right-Hand Drive
K	Left-hand part	LH	Left-hand part
K1	Left-hand drive	LHD	Left-Hand Drive
L	Homologation part number	CAT-ABC or 50HL13-2540040- AAA (older type)	Unique part number used for parts that shall be homologized.
M	Date of manufacture	10-015	Year-Day. The ordinal number of the day within the year is represented by three digits. The first day of any year is represented by [001] and subsequent days in ascending sequence.
N	Blank number	Blank Ämne 1234567	Blank number may be specified in order to facilitate handling up to the machining stage. Normally not indicated on the drawing.
Р	Supplier code	CYC6A	Max 5 digits/letters





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Designation	Marking information	Example of	Remarks
		marking text	
(Q)	Tool number	12	Max. 2 digits. Normally not stated on the drawing but is generally required when one and the same part is manufactured at the same time in different tools or in different mould compartments in the same tool.
R	Batch number	1234	A batch or a charge is a quantity of steel or any other metal which is produced simultaneously in one melting furnace. The batch number may consist of digits, letters or a combination of digits and letters (if possible maximum 4 characters).
S	Date of manufacture		If only designation S has been given for marking information, any of the alternatives S1, S2 or S3 is accepted.
S1	Date of manufacture	10-11	Year-Month. The part will be marked, e.g., 10-11. For cast parts, it may be replaced by a date clock on an ejector plane. (See Figure 4-7)
S2	Date of manufacture	PD	Year-Month. In encoded form according to Table 7. The part will be marked, e.g. PD.
S3	Date of manufacture (not ISO)	11-10	Month-Year. To be used in those cases when national laws require other date indication formats (e.g. USA). The part will be marked, e.g. 11-10. For cast parts, it may be replaced by a date clock on an ejector plane.
S4	Date of manufacture	1125A	Year-Week-Day-Shift. Date of manufacture shall include five positions: 1 digit for year, 2 digits for week, 1 digit for day of the week and 1 digit for the work shift. Example: 1125A (2011, week 12, day 5, A-shift). Letters for work shift to be indicated as follows: A = A-shift, B = B-shift, D = Daytime, H = Weekend shift, N = Night shift, O = Overtime
S5	Serial number	136-123	Unique serial number for a part. Example: Day number-running number.
S6	Date of manufacture	130827	Year-Month-Day Example: 130827 (13 = Year 2013, 08 = August, 27 = day in month).
S7	Date of manufacture	110117	Day-Month-Year Example: 110117 (11 = day in month, 01 = January, 17= Year 2017,).
S8	Date of manufacture	110217	Day-Week-Year Example: 110217 (11 = day in month, 02 = Week 02, 17 = Year 2017).
Т	Date of manufacture	10W03	YearWeek (without space between) W = short for Week. Calendar week is represented by two digits. The first calendar week of the year shall be identified as [01] and subsequent weeks shall be numbered in ascending sequence.



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Designation	Marking information	Example of marking text	Remarks
U	Date of manufacture	10W031	YearWeekDay (without spaces between) W = short for Week. Day of week is represented by one digit. Monday shall be identified as day [1] of any calendar week, and subsequent days of the same week shall be numbered in ascending sequence to Sunday (day [7]).
V	Date of manufacture	(see figure 4) (se figure 4)	Date clock or date insert, or alternatively, date field for cast or injection moulded parts as per figure 4 (year and month to be indicated).
X	Date of manufacture	(see figure 5) (se figure 5)	Date clock or date insert, alternatively, date field for cast or injection moulded parts as per figure 5 (year and month to be indicated).
Υ	Date of manufacture		Date clock or date insert, alternatively, date field as per V or X but with other dimensions (dimensioned on drawing) (year and month to be indicated).
Z	Compressed code	12R345	6 characters. Only used upon request from the manufacturing unit if there is insufficient space for complete marking. (Supplier code + RH or LH part + batch number, consecutive).

Figure 3 below shows an example of indication of change condition or, as an alternative, part version suffix.

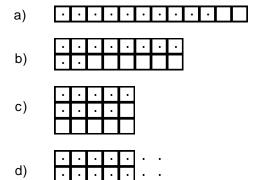


Figure 3

Change field (alt. for supplementary marking H)

- a) = 1-line, 10 change conditions or part version suffixes indicated
- b) = 2-lines, 10 change conditions or part version suffixes indicated
- c) = 3-lines, 9 change conditions or part version suffixes indicated
- d) = 20 change conditions or part version suffixes indicated

Table 6 below shows dimensions/design of relevant change field. For a definition of H<sub>1</sub>, see figure 6.



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Table 6

H1	No. of lines	No. of		Size of square	Square field	Square field	No. of changes
Line 2		square	es/line		height	length	
mm				mm	mm	mm	
1,2	-	-		-	-	-	-
1,6	-	-		-	-	-	-
2	1	12	a)	2	2	24	12
2,5	1	12	a)	2	2	24	12
3	1	12	a)	2	2	24	12
4	2	8	b)	2	4	16	16
5	2	8	b)	2,5	5	20	16
6	2	8	b)	3	6	24	16
8	3	5	c)	2,5	7,5	12,5	15
10	3	5	c)	3	9	15	15
12,5	3	5	c)	4	12	20	15
16	3	5	c)	4	12	20	15
20	3	5	c)	4	12	20	15

Table 7 below shows examples of indication of date of manufacture in encoded form.

Table 7

			rabi	<i>E 1</i>		
Year	Letter	Year	Letter		Month L	
2011	В	2023	Р		January	Α
2012	С	2024	R		February	В
2013	D	2025	S		March	С
2014	E	2026	Т		April	D
2015	F	2027	V		May	E
2016	G	2028	W		June	F
2017	Н	2029	Χ		July/Juli	G
2018	J	2030	Υ		August	Н
2019	K	2031	1		September	J
2020	L	2032	2		October	K
2021	M	2033	3		November	L
2022	N	2034	4		December	M

Ex: 2008 July/Juli = 8G

The date fields as per figures 4b and 5b shall comprise a ten-year period, starting with the year the part was first manufactured in the top left-hand square.

Figures 4a, 4b, 5a and 5b shall be regarded as explanatory figures, and other designs are therefore accepted (require approval by Volvo Cars). Tolerance zone:  $\pm$  2 mm.

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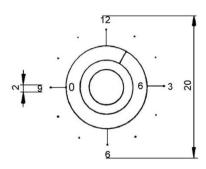


Figure 4

Date clock or date insert X (2006 February indicated)

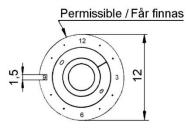


Figure 6

Date clock or date insert V (2006 January indicated)

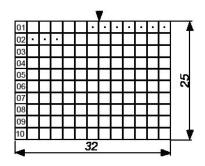


Figure 5

Date field X (new part 2001 in August, last date of manufacture 2002 March indicated)

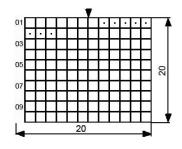


Figure 7

Date field V (new part in 2001 June, latest date of manufacture 2002 March indicated)

Figure 8 illustrates a trim status matrix A-C and 1-5

<u> </u>	O dila i o.							
TOOL STATUS MATRIX								
	1	2	3	4				
Α	•	•	•	•				
В	•							

Figure 8

Figure 9 illustrates a trim status matrix A-C and 1-5.

TOOL STATUS MATRIX					
	1	2	3	4	5
Α	•	•	•	•	•
В	•				
С					

Figure 9

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Figure 10 illustrates a trim status matrix A-D and 1-9.

TOC	TOOL STATUS MATRIX								
	1	2	3	4	5	6	7	8	9
Α	•	•	•	•					
В									
С									
D									

Figure 10

New marking in tool for each change in consecutive order or in accordance with agreement.

The size of the squares shall be 1,25 x the text height.

## 6 Relative position of text on marked part

#### 6.1 Marking with the VOLVO trademark

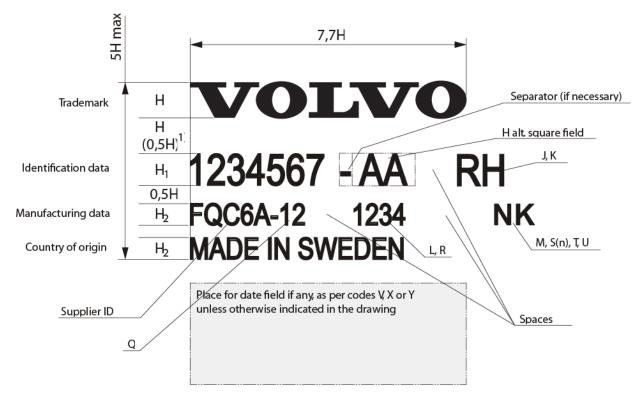


Figure 11

- 1) The pre-determined clear zone around the logotype shall not be less than H min. In case of inadequate marking space, the clear zone may be 0,5 H.
- Line 1 Trademark = The logotype
- Line 2 Identification data
- Line 3 Manufacturing data (except for the country of origin)
- Line 4 Country of origin (given in English)



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Should one (or some) of the intermediate lines not be used, the lower one(s) shall be moved up a step (or two). Should some information in the horizontal plane be left out, the remaining data shall be moved to the left to produce a straight left margin.

If the number of lines is restricted due to lack of space, this shall be indicated on the drawing. In such a case, e.g. "2 lines/rader" is indicated after the marking information.

If more than one line is prescribed, the logotype shall always be placed by itself on the top line.

shows how the information shall be positioned unless otherwise indicated. Normally, all this information is not required at the same time.

#### 6.1.1 Text height

The text height specified on the drawing refers to the height, H, of the logotype (if any) in mm.

If only identity and manufacturing information is included, the text height refers to the identity data (H<sub>1</sub>).

The height of other text is given in Table 8. For definition of text heights, see Figure 11.

If marking without a trademark, text height H₁ applies.

Table 8

The logoty	pes		Text height	H₁ (line 2)	ine 2) Text height H <sub>2</sub> (lines 3 and 4	
Height / approx.	Length / Längd Nom (7,7 H)	Tol	Nom	Tol	Nom	Tol
1,3	10	± 0,5	1,2	± 0,1	0,8	± 0,1
1,6	12,5	± 0,6	1,6		1	
2,1	16	± 0,8	2		1,2	
2,6	20	± 1	2,5		1,6	
3,2	25	± 1,2	3	± 0,2	2	
4,1	31,5	± 1,5	4		2,5	
5,2	40	± 2	5		3	± 0,2
6,5	50	± 2,5	6	± 0,4	4	
8,2	63	± 3	8		5	
10,4	80	±4	10	± 0,5	6	± 0,4
13	100	± 5	12,5		8	
16	125	± 6	16	± 0,8	10	± 0,6
21	160	± 8	20		12	

The dimensions listed in the table refer to the letter or digit size in the tool, not the actual marking obtained on the part.

Values stated in bold italic shall be preferred.

Parts exposed to dirt, underseal or similar should have a minimum text height of 4 mm for reasons of readability. Normally, the combination 6/4 for  $H_1/H_2$  should be used for such parts.

Should this combination not be possible due to lack of space, a text height of 4 mm shall be specified. This must, however, be written out in full, e.g. 1 HPS-4 (all information).

The recommended minimum logotype length is 25 mm.

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#### 6.2 Marking with the SPACMA trademark

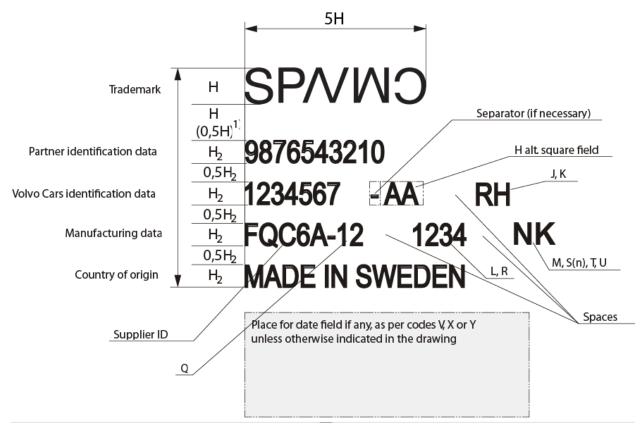


Figure 12

- 1) The pre-determined clear zone around the logotype shall not be less than H min. In case of inadequate marking space, the clear zone may be 0,5 H.
- Line 1 Trademark = The logotype
- Line 2 Identification data Partner
- Line 3 Identification data Volvo Cars
- Line 4 Manufacturing data (except for the country of origin)

Should one (or some) of the intermediate lines not be used, the lower one(s) shall be moved up a step (or two). Should some information in the horizontal plane be left out, the remaining data shall be moved to the left to produce a straight left margin.

If the number of lines is restricted due to lack of space, this shall be indicated on the drawing. In such a case, e.g. "2 lines/rader" is indicated after the marking information.

If more than one line is prescribed, the logotype shall always be placed by itself on the top line.

shows how the information shall be positioned unless otherwise indicated. Normally, all this information is not required at the same time.



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#### 6.2.1 Text height

The text height specified on the drawing refers to the height, H, of the logotype (if any) in mm.

If only identity and manufacturing information is included, the text height refers to the identity data (H<sub>1</sub>).

The height of other text is given in Table 9. For definition of text heights, see Figure 12.

Table 9

The logotyp	es		Text height h	height H <sub>1</sub> (line 2) Text height H <sub>2</sub> (lines 3 and 4)		ines 3 and 4)
Height	Length	Tol	Nom	Tol	Nom	Tol
approx.	Nom (5 H)					
1,3	6,5	± 0,5	1,2	± 0,1	0,8	± 0,1
1,6	8	± 0,6	1,6		1	
2,1	10,5	± 0,8	2		1,2	
2,6	13	± 1	2,5		1,6	
3,2	16	± 1,2	3	± 0,2	2	
4,1	20,5	± 1,5	4		2,5	
5,2	26	± 2	5		3	± 0,2
6,5	32,5	± 2,5	6	± 0,4	4	
8,2	41	± 3	8		5	
10,4	52	±4	10	± 0,5	6	± 0,4
13	65	± 5	12,5		8	
16	80	± 6	16	± 0,8	10	± 0,6
21	105	± 8	20		12	

The dimensions listed in the table refer to the letter or digit size in the tool, not the actual marking obtained on the part.

Values stated in bold italic shall be preferred.

Parts exposed to dirt, underseal or similar should have a minimum text height of 4 mm for reasons of readability. Normally, the combination 6/4 for  $H_1/H_2$  should be used for such parts.

Should this combination not be possible due to lack of space, a text height of 4 mm shall be specified. This must, however, be written out in full, e.g. 1 HPS-4 (all information).

The recommended minimum logotype length is 25 mm.



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## 6.3 Marking with the Polestar trademark

Marking (fixed) — Polestar

Separator: em-dash\*

Identification data  $\rightarrow 12345678$ 

 ${}_{\text{Manufacturing data} + \text{Q}} \rightarrow FQC6A, 12$ 

Supplementary markings + H, J, K, L, R, M, S(n), T, U (divided with a comma)

1234, NK

Manufacturing country — Made in Sweden

Place for date field if any, as per codes V, X or Y unless otherwise indicated in the drawing

Figure 13

Line 1 Trademark = The logotype

Separator: em dash.

(PC: control + alt + minus sign. MAC shift + option + minus sign)

Line 2 Identification data

Line 3, 4 Manufacturing data (except for the country of origin)

Line 5 Country of origin (in English)

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#### 6.3.1 Text height, font and scaling



Figure 14

Font: Ariel Regular Kerning: Optical Tracking: -15

#### Line length:

Maximum characters per line is 10 (excluding comma and space), then brake to a new row.

Scale the intact group to fit different parts.

#### Break point:

Minimum size of the intact group is set to 8/4 pt. After this point all text shall be set at 5 pt. Allowed minimum size is 4 pt.

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#### 6.4 Marking without trademark and with Volvo Cars identification data

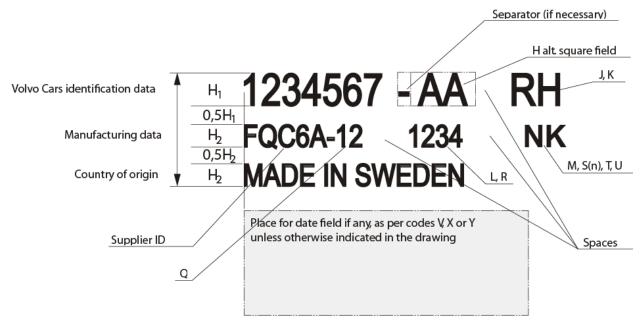


Figure 15

- Line 1 Identification data
- Line 2 Manufacturing data (except for the country of origin)
- Line 3 Country of origin (given in English)

Should one (or some) of the intermediate lines not be used, the lower one(s) shall be moved up a step (or two). Should some information in the horizontal plane be left out, the remaining data shall be moved to the left to produce a straight left margin.

If the number of lines is restricted due to lack of space, this shall be indicated on the drawing. In such a case, e.g. "2 lines/rader" is indicated after the marking information.

Figure 9 shows how the information shall be positioned unless otherwise indicated. Normally, all this information is not required at the same time.

#### 6.4.1 Text height

The text height specified on the drawing refers to the height, H<sub>1</sub>, in mm.

If only identity and manufacturing information is included, the text height refers to the identity data  $(H_1)$ .

The height of other text is given in Table 10. For definition of text heights, see Figure 15.



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Table 10

Text height H₁ (line 2)		Text height H <sub>2</sub> (lines 3 and 4)		
Nom	Tol	Nom	Tol	
1,2	± 0,1	0,8	± 0,1	
1,6		1		
2		1,2		
2,6		1,6		
3	± 0,2	2		
4		2,5		
5		3	± 0,2	
6	± 0,4	4		
8		5		
10	± 0,5	6	± 0,4	
12,5		8	_	
16	± 0,8	10	± 0,6	
20		12		

The dimensions listed in the table refer to the letter or digit size in the tool, not the actual marking obtained on the part.

Values stated in bold italic shall be preferred.

Parts exposed to dirt, underseal or similar should have a minimum text height of 4 mm for reasons of readability.

Should this combination not be possible due to lack of space, a text height of 4 mm shall be specified. This must, however, be written out in full, e.g. 1 HPS-4 (all information).

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#### 6.5 Marking without trademark and with partner and Volvo Cars identification data

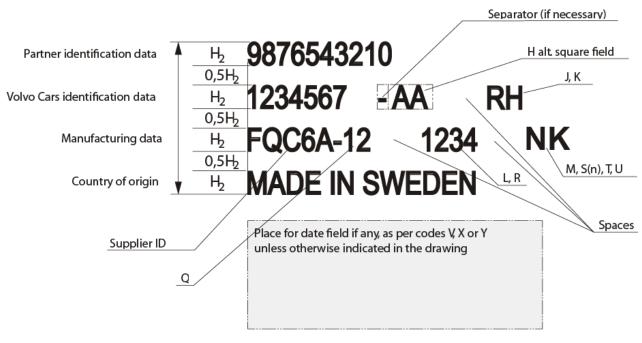


Figure 16

- Line 1 Identification data, Partner
- Line 2 Identification data, Volvo Cars
- Line 2 Manufacturing data (except for the country of origin)
- Line 3 Country of origin (given in English)

Should one (or some) of the intermediate lines not be used, the lower one(s) shall be moved up a step (or two). Should some information in the horizontal plane be left out, the remaining data shall be moved to the left to produce a straight left margin.

If the number of lines is restricted due to lack of space, this shall be indicated on the drawing. In such a case, e.g. "2 lines/rader" is indicated after the marking information.

Figure 10 shows how the information shall be positioned unless otherwise indicated. Normally, all this information is not required at the same time.

#### 6.5.1 Text height

The text height specified on the drawing refers to the height, H<sub>2</sub>,in mm.

If only identity and manufacturing information is included, the text height refers to the identity data H<sub>2</sub>).

The height of other text is given in Table 11. For definition of text heights, see Figure 16



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Table 11

Text height H <sub>2</sub> (lines 3 and 4					
Nom	Tol				
0,8	± 0,1				
1					
1,2					
1,6					
2					
2,5					
3	± 0,2				
4					
5					
6	± 0,4				
8					
10	± 0,6				
12					

The dimensions listed in the table refer to the letter or digit size in the tool, not the actual marking obtained on the part.

Values stated in bold italic shall be preferred.

Parts exposed to dirt, underseal or similar should have a minimum text height of 4 mm for reasons of readability.

Should this combination not be possible due to lack of space, a text height of 4 mm shall be specified. This must, however, be written out in full, e.g. 1 HPS-4 (all information).

## 7 Logotypes

#### 7.1 The VOLVO logotype

The Volvo name and trademark are legally protected. The logotype in which the trademark VOLVO is used is specially designed for us. A correct representation of the VOLVO logotype helps safeguard this protection and is thus an absolute requirement. Reproduction may only be carried out using the proper original that can be found at <a href="http://www.volvocars.com/supplierportal">http://www.volvocars.com/supplierportal</a>,

The VOLVO logotype has a fixed graphic form, and the distances between the letters must never be changed. The logotype must not occur in running text or be changed by the addition of text, pictures or symbols.

When the logotype is reproduced by casting, punching, embossing, etching or engraving, the letters shall be filled and evenly raised against an even substrate.



Figure 17

When punching in materials that, for some reason, do not permit the use of filled letters (e.g. hard



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materials) the letters may be produced with contour lines. See Figure 18. A suitable thickness for the contour lines is 1/100 of the length/width of the logotype. Contour letters must not be used in any other context.



Figure 18

#### 7.1.1 Colours

The VOLVO logotype shall always be represented in one of its corporate colours: Volvo blue, black, white, or silver (silver only in certain particular applications).

If **no colour requirement** has been specified in the design-engineering documentation, the marking text shall be applied "**colourless**" (in the case of marking methods 1, 2 or 6).

If the design-engineering documentation specifies **one single colour** (black or white), this refers to the **colour of the text** and the surrounding surface is "colourless" (= substrate colour).

If a combination of **two colours** is specified in accordance with below, the first colour refers to the **colour of the text**, and the second to the **colour of the surrounding surface/substrate** (signs, plates, labels, decals, etc.).

If "Optional colour" has been specified for marking method 3 or 4 (marking plates, labels and similar), one of the following combinations of text/substrate shall be used:

blue/white white/blue white/black black/white blue/silver silver/blue

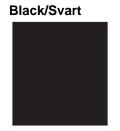
#### No other combinations are accepted.

In the case of marking method 5 (punching) and if no colour has been specified, the marking shall be carried out in a colour which contrasts well with the substrate to make it easy to read.

The following colour codes apply



PMS 540 C CMYK: 100/57/12/66 RGB: 29/51/86 HEX: #003057



PMS Process Black C CMYK: 0/0/0/100 RGB: 0/0/0 HEX: #000000



PMS Cool Gray 7 C CMYK: 0/0/0/37 RGB: 153/153/155 HEX: #9A9B9D



White CMYK:
— RGB: 255/255/255 HEX: #FFFFFF



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If the VOLVO logotype shall be reproduced on a surface that is uneven or patterned, the marking shall be applied on a smooth plate to increase legibility. This plate shall be big enough to house the entire marking text (e.g. method 1.3).

The colour required for the VOLVO logotype also applies to the rest of the marking text.

#### 7.2 The SPACMA logotype

The SPACMA name and trademark are legally protected. The logotype in which the SPACMA trademark is used is specially designed for us. A correct representation of the SPACMA logotype helps safeguard this protection and is thus an absolute requirement. Reproduction may only be carried out using the proper original that can be found at <a href="http://www.volvocars.com/supplierportal">http://www.volvocars.com/supplierportal</a>,

The SPACMA logotype has a fixed graphic form, and the distancing between the letters must never be changed. The logotype must not occur in running text or be altered through the addition of text, pictures or symbols.

When the logotype is reproduced by casting, punching, embossing, etching or engraving, the letters shall be filled and evenly raised against an even substrate.



Figure 19

When punching in materials that, for some reason, do not permit the use of filled letters (e.g. hard materials) the letters may be produced with contour lines. See Figure 20. A suitable thickness for the contour lines is 1/100 of the length/width of the logotype. Contour letters must not be used in any other context.



Figure 20

For manufacturing reasons, on free vulcanized rubber hoses, the SPACMA brand name may be given in a common sans serif typeface.

## 8 Typeface for the other text

For the alphabetic marking text, lower-case letters shall normally be used with an upper-case initial letter. The text may, however, be written in upper-case letters if this is better from a technical point of view.

"Helvetica Medium" or other similar linear (grotesque) typeface shall be used (e.g. in accordance with DIN 1451).

## 9 Marking examples

As an aid in the application of this standard, the following examples of marking are given:

Example 1



MARKED ACCORDING TO VCS 5051,17 MET 1.1 - 9 - 4,1 MARKED WITH PART NUMBER 1234567



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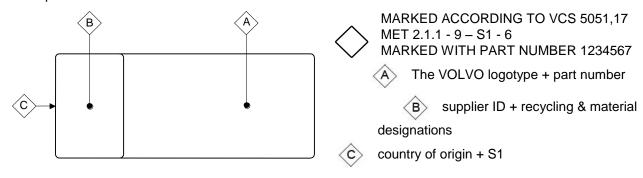
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Means: Marking method/Marking text raised – Basic marking/ The VOLVO logotype + part number + supplier ID + recycling & material designations (if applicable) + country of origin – Text height (mm)/4,1

The example illustrates marking with a part number differing from the one that applies to the part in question, for instance the assembly number.

#### Example 2



Means: Marking method/Punching – Basic marking (spread out)/ The VOLVO logotype + part number + supplier ID + recycling & material designations + country of origin – Additional marking/ S1 = Date of manufacture – Text height (mm)/6

The example illustrates how normal marking shall be indicated on the drawing when it cannot be kept together due to lack of space.

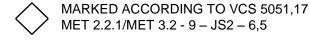
In this case, the respective part of the marking shall be marked by a letter in the marking symbol.

#### Example 3



Means: Marking method/Marking text raised — Basic marking/ The VOLVO logotype + part number + supplier ID + recycling & material designations (if applicable) + country of origin — Additional markings/ K = LH design, J = RH design (symmetric-opposite), V = date of manufacture — Text height (mm)/6.

#### Example 4



Means: Marking method/Etching (with acid) riveted plate — Basic marking/ The VOLVO logotype + part number + supplier ID + recycling & material designations (if applicable) + country of origin — Additional markings/J = Right-hand part (RH), S2 = Date of manufacture shall be indicated in the form of a date code in accordance with Table 5 (e.g. 2009 January = date code 9A) — Text height (mm)/6,5

#### 10 Associated standards

ISO 3166-1:2006 Codes for the representation of names of countries

ISO 8601:2004 Representation of dates and times VCS 9122,19 Representation of dates and times



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VCS 5052,219 Colour identification marking on rubber parts

VCS 5051,4 Parts marking with bar codes and 2-D symbologies

VCS 5052,42 Material and process identification

DIN 1451 Serifenlose Linear-Antigua