



User Instruction for estimation of CABAS Heavy Surface alignment



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1 General

The times in this document are based on time studies carried out at companies operating in the industry and approved by the automotive and insurance sectors. The studies have been performed under the supervision and with the assistance of these players. The times in the document are specified in periods (1 hour = 100 periods).

The time study has been carried out at damage repair workshops for passenger cars. The times have been adjusted for CABAS Heavy.

2 Surface alignment

2.1 Definition

Surface alignment means the alignment value that is required in order, with the aid of alignment tools and filler, to restore a damaged surface to its original condition as regards surface structure. The finished surface must consequently be of such a quality that painting with normal primer can be carried out.

2.2 Exposure

The main rule for CABAS Heavy is that the Installation/Dismantling choice must be made manually in order to generate time for the necessary exposure.

2.3 Surface alignment time

The surface alignment time includes the completed alignment work with any shrinkage of the sheet metal, the use of hydraulic tools as well as aligning, filling or tin filling. It also includes the removal of any underbody sealer/body and damping felt.

The time for repairing any holes or cracks present in the original damage is not included in the surface alignment time. However, the time for repairing any holes or cracks that occur in conjunction with surface alignment is included.



3 Damage classes

The difficulty of the damage is divided into two different groups, depending on accessibility.

Degree of difficulty A	Full accessibility/Limited accessibility. The damage can be handled without being limited by the choice of tools, or by the design restricting the available space from the front or rear, thereby restricting the choice of tools.
Degree of difficulty B	No accessibility. The design completely prevents working from the rear.

4 Measuring the damage surface

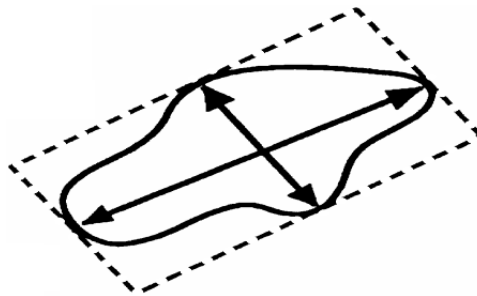
Divide the damage surface by marking one or more squares or rectangles. After this, determine the area in whole dm² by measuring length and width. See: "Examples of damage and measurement techniques".

Note! The damaged surface must be measured and calculated before carrying out the alignment work!

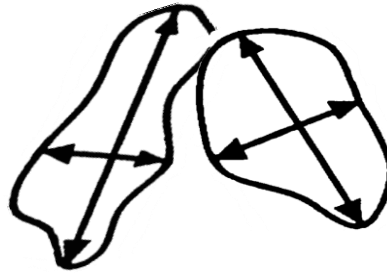
In the event of several instances of damage to the same component, add up the damage surfaces. However, if the damage surfaces are located sufficiently far from each other that the surface between them does not need to be aligned, the various instances of damage must be calculated individually.

If the damage extends across two damage classes, calculate the entire damage according to the damage class that makes up the largest proportion of the damage surface.

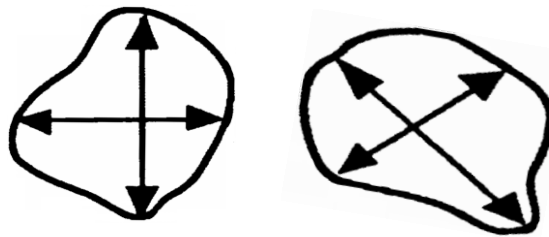
4.1 Examples of damage and measurement techniques



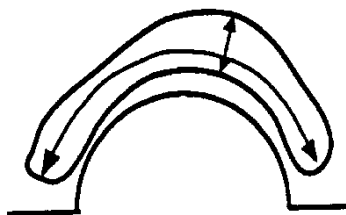
The damage must be converted into a rectangle.



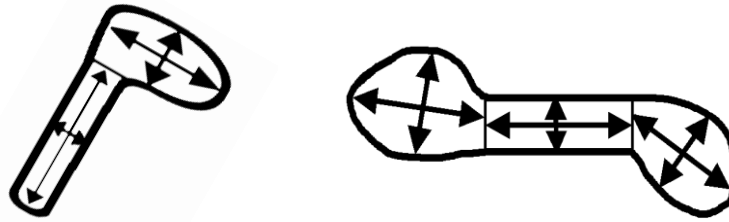
Two instances of damage which are located close to each other, and which can be assumed to dovetail to form one damage, must be added together.



Two nearby instances of damage are separated by a surface that does not need to be aligned. The instances of damage are calculated separately.



In the event of damage around e.g. wheel openings and wheel arches, measure the length and multiply this by the average width.



Damage with an irregular shape is measured by carrying out several partial measurements and adding them together.

5 Rust protection in conjunction with surface alignment

In conjunction with the surface alignment of a position in CABAS, you are permitted to add **3 periods** per position via manual row in CABAS.



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6 Surface alignment table

Damage surface [dm ²]	Degree of difficulty A	Degree of difficulty B
1	39	56
2	51	83
3	61	111
4	73	139
5	84	166
6	95	194
7	106	221
8	117	249
9	128	277
10	139	304
11	150	332
12	161	359
13	172	387
14	184	415
15	195	442

The majority of the damage in CAB's time study data has been within the interval 1-15 dm², and as a result this table only covers such damage.

In cases where the alignment surfaces exceed the specified values in the table, you must contact the relevant insurance company's damage assessor in order to agree on a suitable alignment time for each individual instance of damage.



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7 Change log

Document	Ver	Date	Description	Issued by
CABNET- 1933461346-1016	1.0	12-02-2021	New Document. Translated from Swedish document CABNET-904420094-196.	Markus Carlén
CABNET- 1933461346-1016	2.0	15-03-2021	1 General: Clarification of origin of times.	Markus Carlén