



User Instruction for estimation of CABAS Heavy Frame alignment



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1 Preface

This document describes the timing of frame alignment. It applies to the frame alignment of trucks and trailers.

2 User instructions for frame alignment

2.1 Preconditions

The calculation basis can be used for most frame damage that occurs, which is aligned in benches such as Frame Aligner, JOSAM or similar. The following preconditions and definitions must be taken into consideration.

2.1.1 Scope of the work

The scope of the work in allocated times relate to complete work with the following content:

- driving in and out
- measurement in conjunction with bench assembly
- assembly of alignment equipment
- alignment work according to preconditions and definitions
- completion

2.1.2 Working methods

Working methods for the alignment of frames can be seen from instructions from the relevant manufacturers of frames and alignment equipment. The impact of cold and hot alignment must be considered carefully to ensure that the frame's material characteristics are not altered or that the alignment tensions remain.

2.1.3 Scope of the repair times

- **Cross member attachments, flange and reinforcement panel deformations** within measured damage areas are rectified within the allocated time.
- **Flange and reinforcement panel deformations** that are not located within measured damage areas must be replaced with a separate time.
- **Tension releasing** post-alignments are included in the allocated times.
- The allocated times do not include time for the required **exposure work**.
- For surface alignment, the specified table can be used for guide values.



3 Definitions

Setup time (order time) is applied one (1) time per car and constitutes the time for driving in and out, planning the scope of the work, time stamping or other administrative procedures.

The **measurement report** must specify the deformations in mm and be measured for distortion, lateral bend, sag, diagonal and otherwise in accordance with instructions from manufacturers of frame and measuring equipment such as JOSAM or similar.

Cross members. The number of cross members included in the relevant frame is counted and timed according to the table. The member for the bumper, rear cab mounting, tow bar, etc., is not included in this number. The time is compensation for the difference in the scope of the work between different frame lengths, and with different numbers of affected cross members.

Distortion. Measured from the lower edge of the front and rear ends of the frame to the floor. Calculate the difference in mm. Take into account any impact of sag deformation.

Lateral bend. The largest lateral bend in mm is measured from a straight line in the frame's lengthwise direction on the basis of the centre of the frame, front and rear.

Sag. The largest horizontal downwards deflection in mm is measured from a straight line in the frame's lengthwise direction.

Diagonal. The frame members' parallel displacement in mm is measured. Take into account any impact of distortion deformation.

Retake. In order to align the frame, the equipment (the point of attack) must be moved to a different part of the frame; this is known as a Retake.

3.1 Example 1

Make: Scania. Frame damage with 1 lateral bend measured at 100 mm on a frame with 5 cross members and a reinforced frame.

Frame class	Reinforced frame
Number of cross members	5
Setup time	184 periods
Lateral bend 100 mm	680 periods
Total periods	1,116 periods

3.1 Example 2

Make: Volvo, Mercedes. Frame damage with 1 lateral bend measured at 30 mm and 1 distortion of 50 mm on a frame with 6 cross members and a reinforced frame.

Frame class	Reinforced frame
Number of cross members	6
Setup time	184 periods
Lateral bend 30 mm	141 periods
Distortion 50 mm	260 periods
Total periods	799 periods



4 General

Timing for frame alignment origins from Calculos LB-data.

5 Change log

Document	Version	Date	Description	Issued by
CABNET-1933461346-1012	1.0	12-02-2021	New document. Translated from Swedish document CABNET-904420094-209 Ver 2.0	Markus Carlén
CABNET-1933461346-1012	2.0	16-02-2021	4 General: Clarification about the origins of the times	Markus Carlén