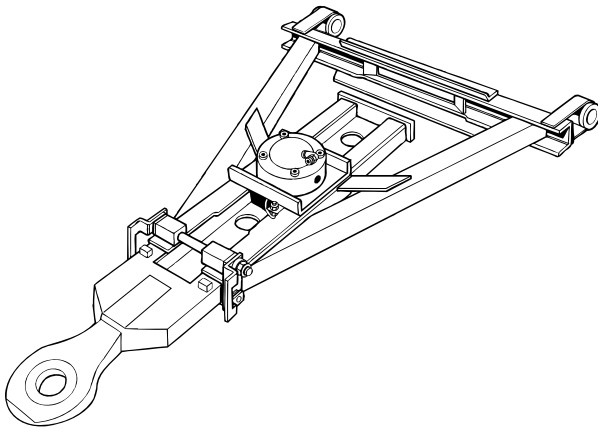


## Mounting Instructions/Service Instructions

2009-04-08 38-050305b



### Description

The VBG Automatic Drawbar 26-080000 is an extendable drawbar with two or more individual length settings with pneumatic locking. The drawbar is tested and approved for 38 ton trailer weight and 18 ton bogie front carriage. Note that the drawbar is intended for installation with the air cylinder on the top side.

*Identify all parts before installation. Installation and maintenance shall be done in a proper and competent manner. Always follow the instructions.*



*During welding on the vehicle, extreme care must be taken that electrical cabling is not damaged. Connect the welder minus cable to the chassis close to the welding point.*

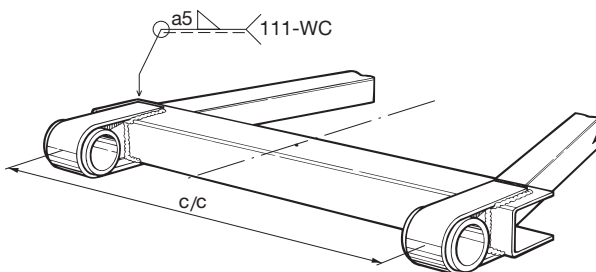


Figure 1

### 1. Welding the rear hinge bracket

1:1 Adjust the hinge brackets on the A-frame's rear crossmember to match the distance between the trailer brackets.

Measure the c/c on the rear crossmember. Use the punch mark on the upper side as an initial point. Check carefully that the brackets are located symmetrically with relation to the drawbar centreline. Place a pipe or similar tool through both sleeves to ensure that they are lined up.

1:2 The rear brackets can now be welded in place by welding round all sides of the bracket. See figure 1.

Suitable welding rod according to ISO E515B120 20 H or AWS E 7018.

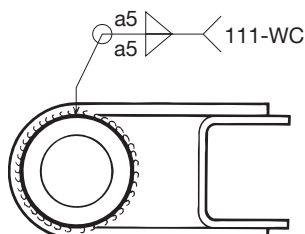


Figure 2

### 2. Welding the rear hinge sleeves

2:1 Install the sleeves. Fit the drawbar between the bracket plates on the trailer and install the spring shackles.

2:2 Centralise the drawbar on the trailer.

2:3 Attach the sleeves to the rear bracket.

2:4 If vibralock or nylon bushes are mounted in the sleeves these must be removed prior to welding to prevent damage from the welding heat.

2:5 Remove the drawbar and weld round the sleeves on both sides. Suitable welding rod according to ISO E515B120 20 H or AWS E 7018. See figure 2.

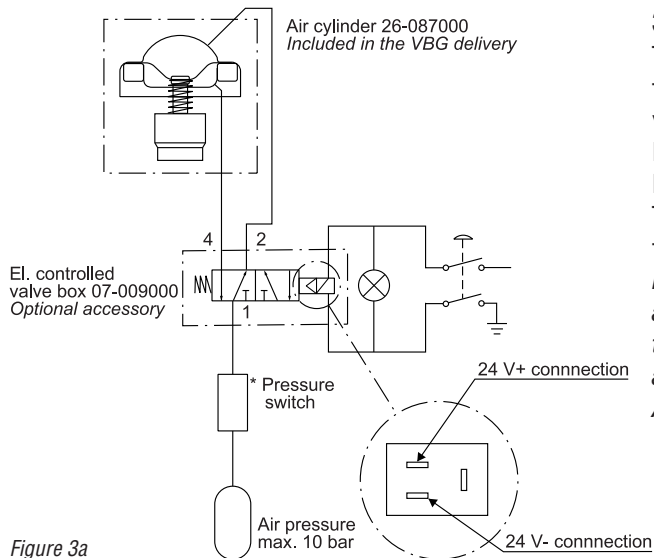


Figure 3a

### 3. Installing the valve box

The drawbar air cylinder can be operated either by a two-position manual valve or an electrically controlled valve.

Manual valve box Part no 07-108000

El. controlled valve box Part no 07-009000

The valve box must be located so that it is protected from blows, dirt and ice.

*N.B. When the unit is connected to the vehicle air system a pressure switch must be installed before the valve so that the braking system is not affected in the event of a failure.*

*Always follow the manufacturers instructions.*

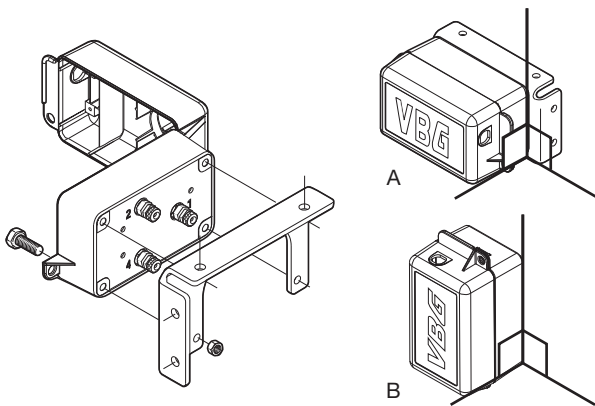


Figure 3b

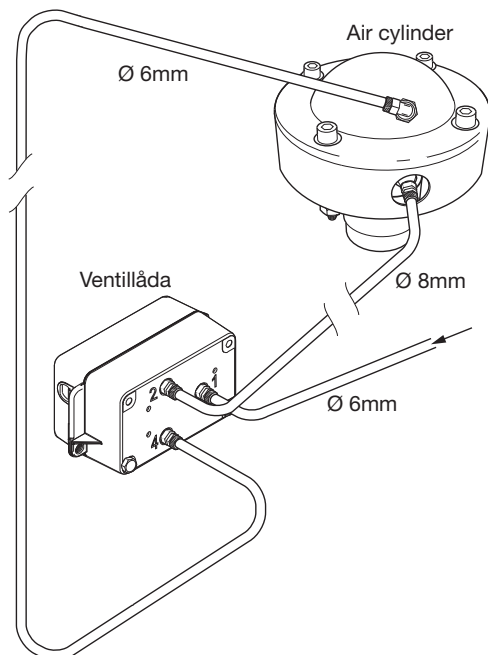


Figure 4

### 4. Fitting the Pipes

- Turn the handle on the control box to service position according to figure 5.
- Connect the other 2 pipes to the control box outputs (2 and 4). Fit the protective cover.
- Connect the pipe from output 4 on the control box to the front output of the actuator. The pipe from output 2 is connected to the rear output of the actuator.
- Connect the supply line to the vehicle's auxiliary air system. Working pressure 8 bar. Maximum pressure 10 bar.

Always follow the truck manufacturer's body building instructions.

**NOTE!** Do not connect to the braking system.

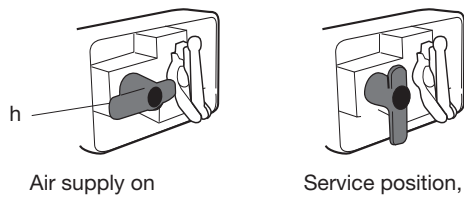


Figure 5

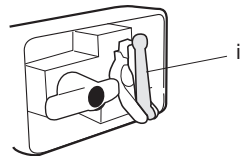


Figure 6

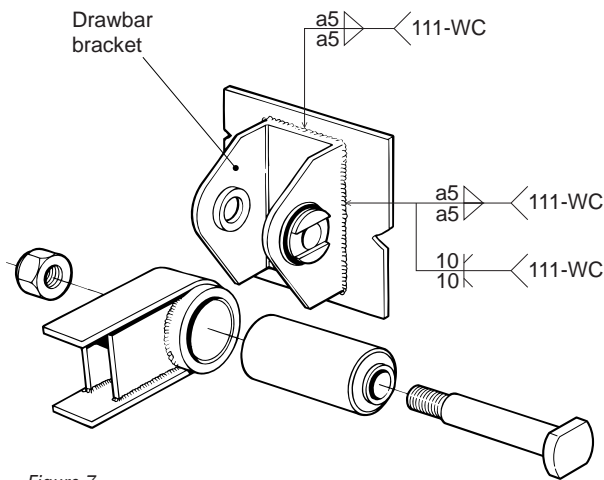


Figure 7

## 5. Service position control box

Before any work or service is carried out on the coupling all air supply to the coupling must be cut off. Cut off the air supply by turning the control box' red handle a quarter turn anti-clockwise to OFF.

## 6. Operation check - power actuator

- Fold out the yellow handle (i). Simultaneously press on the mark "Press" on the handle and turn the handle anti-clockwise to "OPEN". Then turn it back to "CLOSE".

## 7. Welding the drawbar bracket - trailer section

7:1 Make sure the brackets are equidistant from the centreline of the drawbar trailer. Push a pipe or similar tool through the two sleeves to ensure that they are correctly aligned.

7:2 Weld the drawbar brackets to the front cross-member of the drawbar trailer at the c/c-measurement stated. Weld all around the sides of the drawbar brackets. See figure 7. Use a suitable welding rod according to ISO E515B120 20 H or AWS E 7018.

## 8. Assembly of drawbar mounting parts - trailer section

Mount the parts according to separate instruction which is included in the mounting parts kit.

## 9. Installation of piping and cables

VBG does not permit welding or drilling in the drawbar rear crossmember or legs for the attachment of holders but recommends that pipes and cables are clamped to the profiles with separate ties.

## 10. Functional checks

10:1 Tighten the adjustment bolts (see figure 8, item 1) until there is no slack. Check that the front slider section can be adjusted lengthwise.

10:2 Check that the coupling bolt of the air cylinder drops into place in its locking location at each position. Dimension H (see figure 9) must be max. 37 mm when locked.

10:3 The lubrication point indicated on figure 9 must be lubricated once a week. Lubrication must be carried out with the coupling bolt raised. Check the operation of the coupling bolt after lubrication. The coupling bolt and bush must be lubricated from below with VBG oil between service intervals.

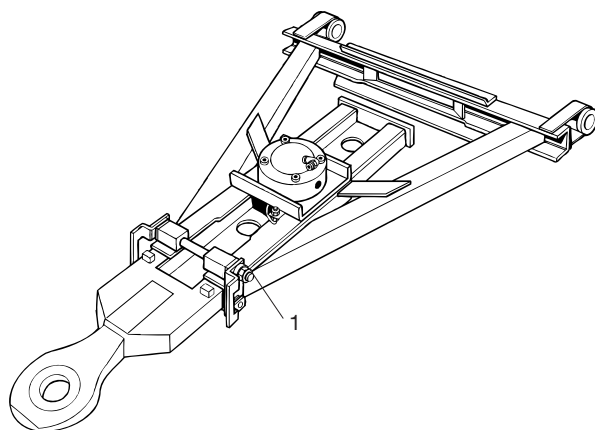
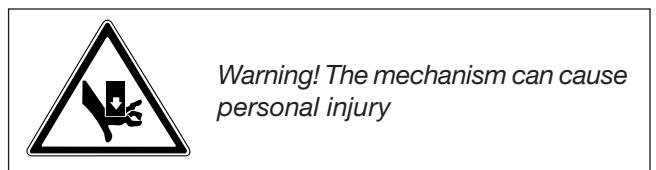


Figure 8



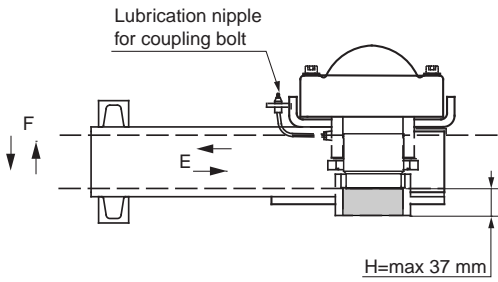


Figure 9

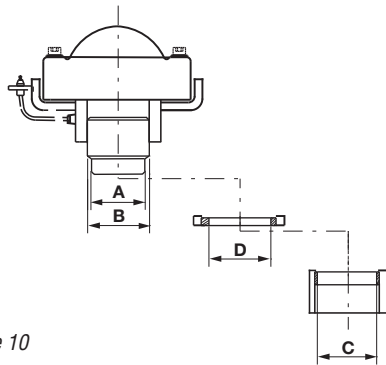


Figure 10

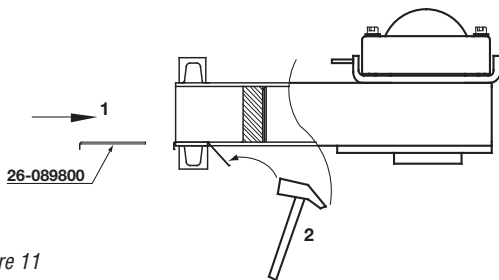


Figure 11

## 11. Wear limits

Coupling bolt, top	A	min. 72.5 mm
Coupling bolt, waist	B	min. 78.5 mm
Bottom bush	C	max. 75.0 mm
Bush, front section	D	max. 81.5 mm
Horizontal play, total (fig 9)	E	max 5 mm
Wear plates (fig 12, item 3)	F *	min 3 mm
Vertical play front/rear sections	F *	
Sideways play front/rear sections, see below		
Vertical play, coupling bolt		The coupling bolt is continually under air pressure thus eliminating play.

\* Play can be reduced by using wear plates 26-089800. These can be added both above and below and if necessary more than one wear plate at each location. See figure 11.

### Sideways play

For maximum length of life there should be no sideways play between front and rear sections. See figure 12 for adjustments. Bolts etc. must be regularly checked for tightness. If driving is carried out for longer periods in one position, the adjustment bolts should be tightened to reduce wear and play. A rebuild kit 26-075700 is recommended for older drawbar models.

## 12. Changing wear plates

12:1 Remove the adjustment bolts (see *figure 12*, item 1), stop plates (2) and wear plates (3) plus any wear sheets if installed, see *figure 11*.

12:2 Re-mount new wear plates and wear sheets.

12:3 Re-mount the adjustment bolts as per *figure 12*.

12:4 Tighten the adjustment bolts (1) so that there is no play. Check that lengthwise adjustment of the front slider can be carried out. *Checking, cleaning and adjustment must be carried out regularly.*

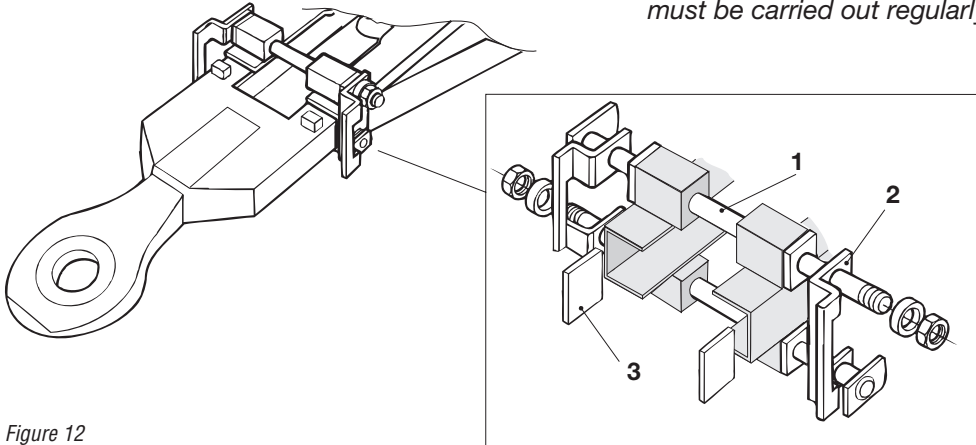


Figure 12

## 13. Changing the diaphragm

13:1 Dismantle the air cylinder and lift off the upper section.

13:2 Remove the allen screw (1). Use the flats on the cylinder rod (4) to stop rotation.

13:3 During reassembly check that the sealing rings (2,3) are not damaged. The washer with the O-ring chamfer (2) must be installed above the diaphragm, see *figure 13*. When tightening the allen screw, use the flats on the cylinder rod (4) to stop rotation. Tightening torque 50 Nm.

13:4 During reassembly of the air cylinder-cover the screws must be tightened alternately to avoid the risk of air leakage and damage to the diaphragm.

13:5 Check function

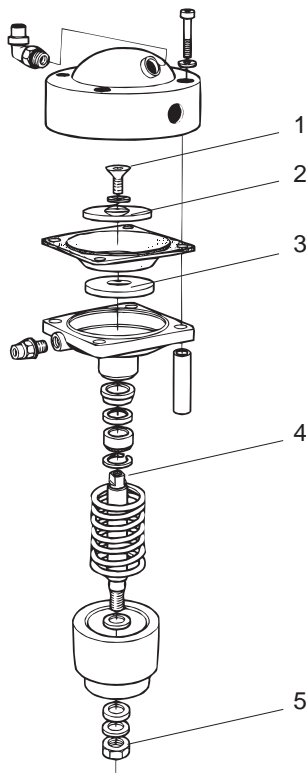


Figure 13

## 14. Changing the coupling bolt

14:1 Dismantle the air cylinder from the drawbar.

14:2 Remove the lock nut (5). Use the flats on the cylinder rod (4) to stop rotation.

14:3 Reassemble with the new coupling bolt. The coupling bolt must be able to rotate on the cylinder rod after the nut (5) has been tightened.

Tightening torque 50 Nm.

View from below

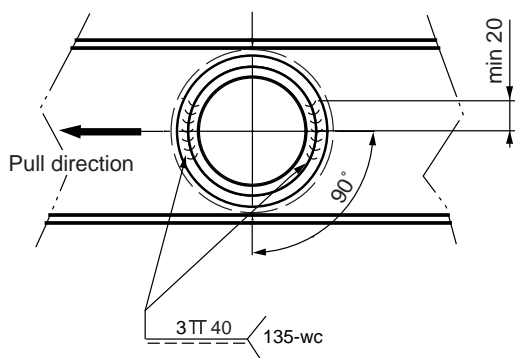


Figure 14

## 15. Changing the lower bush

15:1 To change the lower bush in the A-frame, the bush in the front slider must first be removed, see section 13 below.

15:2 Drive out the bush from underneath.

15:3 Reassemble with new bush 26-084400.

## 16. Changing the bush in the front slider

16:1 Grind off the welding holding the bush.

16:2 Drive out the bush from underneath.

16:3 Prepare the bush weld area.

16:4 Reassemble and weld the bush 26-08300 as per figure 14.

13:5 Surplus weld material must be ground off.

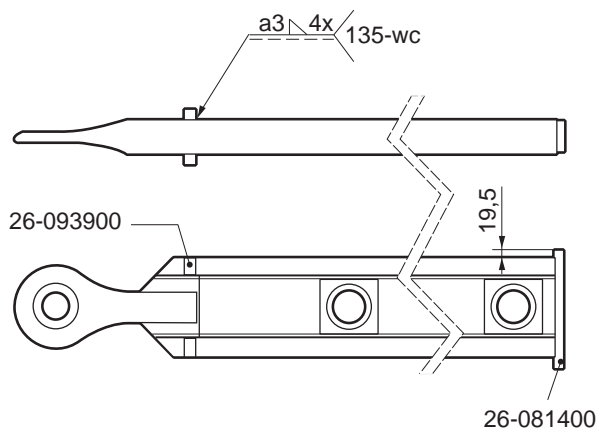


Figure 15

## 17. Disassembly/reassembly of the front slider

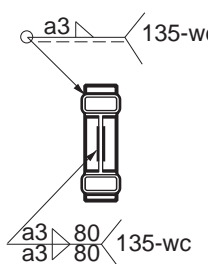
17:1 Loose the adjustment bolts.

17:2 Cut away the rear stop 26-081400, see figure 15.

N.B. If the front slider is to be reused be careful to not cut away any material from the front section profile. Remove any wear plates.

17:3 Reassemble the front slider, lock the front slider in its longest location with the coupling bolt and attach the rear stop.

17:4 Move the front slider backwards to enable welding of the stop as per figure 15.



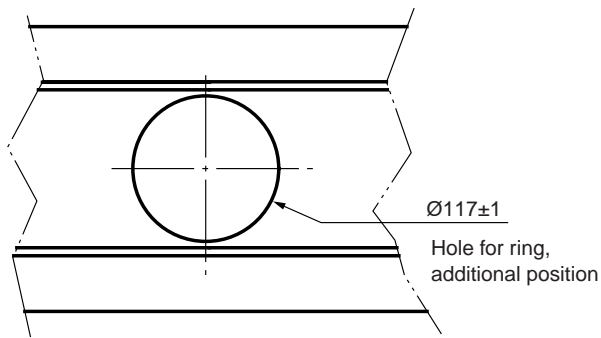


Figure 16

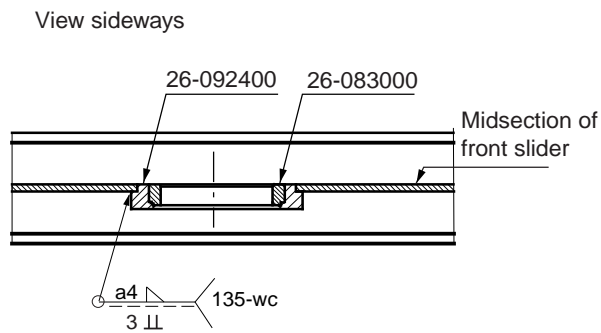


Figure 17

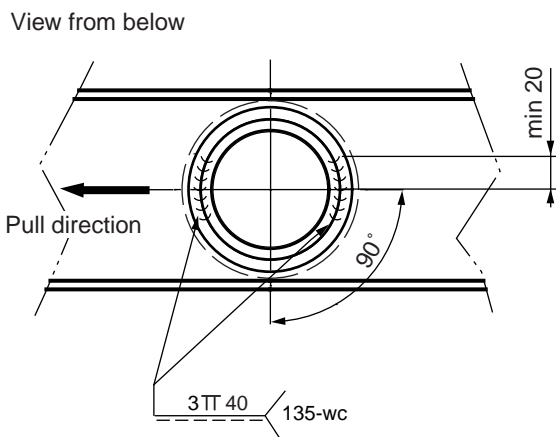


Figure 18

## 18. Adding an additional locking position in the front slider

18:1 Measure and mark the desired hole centre on the front slider. The minimum distance between a hole centre and the centre of the drawbar eye is 680 mm. The minimum distance between two hole centres is 150 mm.

18:2 Cut out a hole with a diameter of  $117 \pm 1$  mm. Grind away any burrs around the hole, see figure 16.

18:3 Fix a ring 26-092400 in the hole from the underside making sure that the ring is lying flush with the centre slider surface and is not impeded by any burrs.

18:4 Make a test assembly of the front slider in the rear A-frame section and check that the ring is centred sideways with relation to the hole for the coupling bolt.

18:5 Remove the front section and weld the ring in place. Weld  $90^\circ$  at a time, cooling between each weld with a wet rag. See figure 17.

18:6 Press in the bush so that the upper edge of the bush is flush with the upper edge of the front slider. Weld the bush in place as per figure 18. Note that welding must be made at right angles to the line of pull loading.

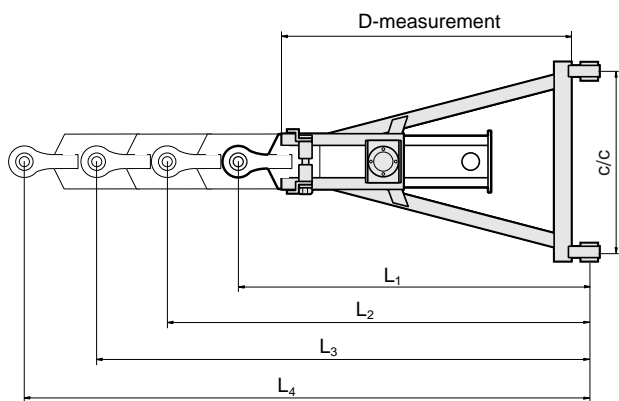
18:7 Surplus weld material must be ground away.

18:8 Reassemble the front slider and check function. Weld the rear stop in place (for welding instructions, see section 14).

18:9 Protect front slider areas worked on with primer and final paint.

## Ordering of Automatic Drawbar

### Complete drawbar part no: 26-080000



c/c measurement:.....mm

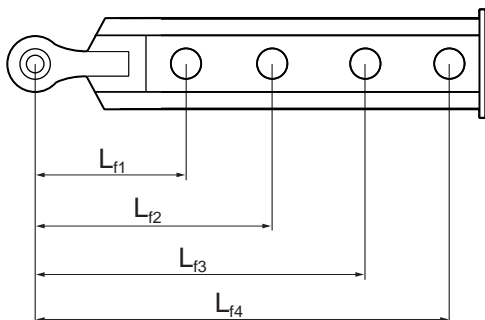
Welding of hinge bracket:  Yes  No

Hinge bracket:  
 VBG standard  Type Briab  Type ASJ

Drawbar eye:  57,5 mm  50 mm  40 mm

Length: L<sub>1</sub>=..... mm L<sub>2</sub>=..... mm

L<sub>3</sub>=..... mm L<sub>4</sub>=..... mm



### Front Slider

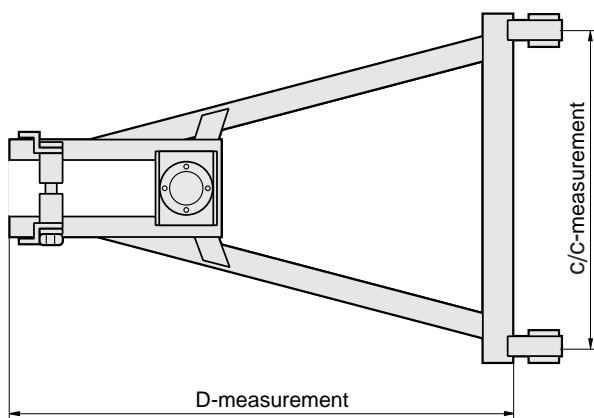
Automatic Drawbar type:  26-080000  26-011100

Part no:  26-000100  26-087300

Drawbar eye:  57,5 mm  50 mm  40 mm

Length: L<sub>f1</sub>=..... mm L<sub>f2</sub>=..... mm

L<sub>f3</sub>=..... mm L<sub>f4</sub>=..... mm



### A-frame

D-measurement:.....mm

c/c-measurement: .....mm

Welding of hinge bracket:  Yes  No

Hinge bracket:  
 VBG standard  Type Briab  Type ASJ

### Customer:

.....

.....

.....

.....

.....

.....

VBG PRODUKTER AB reserve the right to amend or alter specifications at their discretion



**VBG GROUP TRUCK EQUIPMENT AB**

Herman Kreftings gata 4  
 Tel +46 521 27 77 00

Box 1216  
 www.vbg.se

SE-462 28 VÄNERSBORG