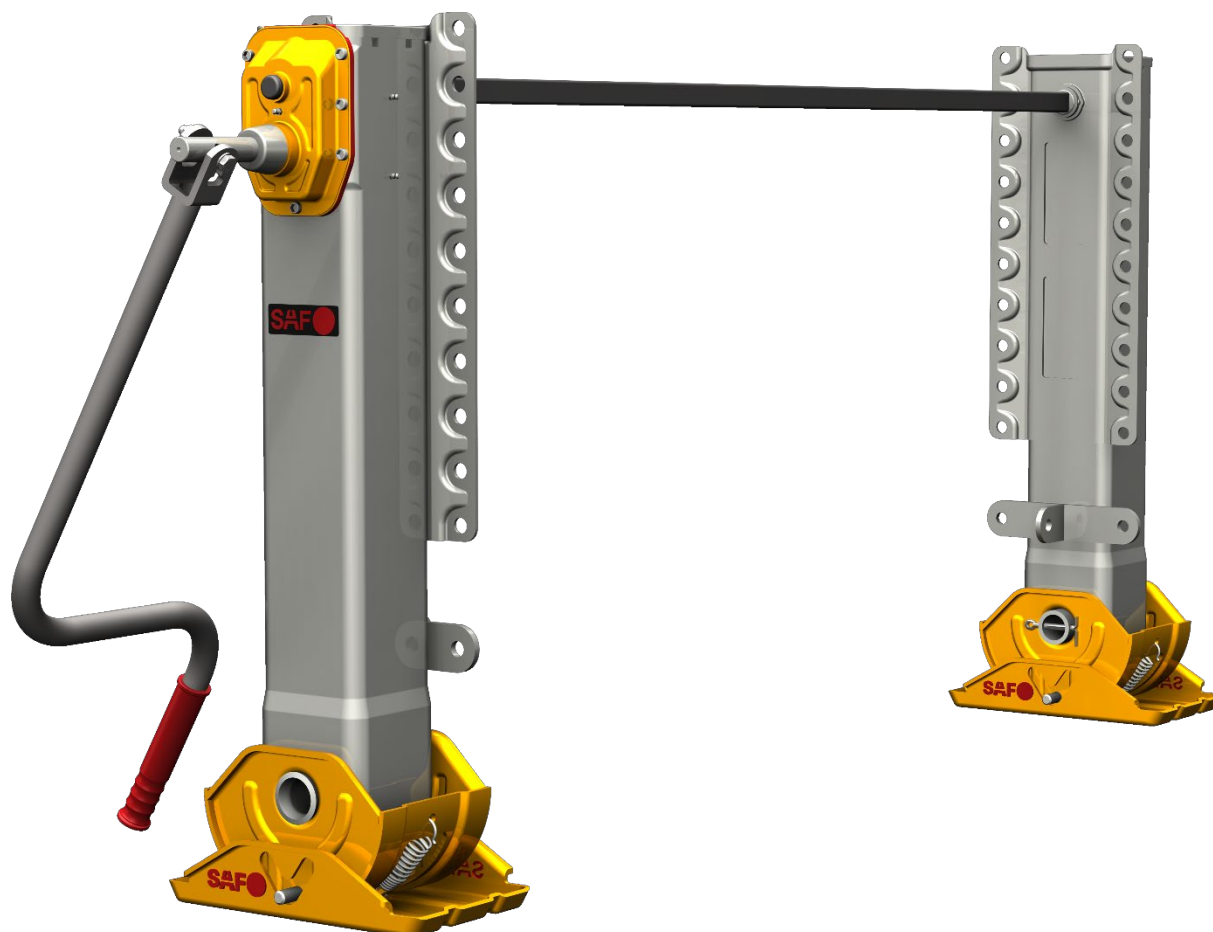


Hercules Landing Gear



Changes made in this version compared to 2020-02

Pages 1-30	Illustrations revised top
Pages 7, 11, 12, 15	Important information 128: Structural strengthening of the compensating shoe
Page 22	Additional connecting shafts added
Page 23	Additional crank added
Page 24	Additional crank holder added

General information

Type plate	4
Type code	5
Glossary	5
Technical data	6

Variants

Hercules variants	7
Hercules mounting plates	10
Hercules foot variants	11
Hercules geometric specifications	12
Hercules installation drawing	15
Hercules "Compact" variants	16
Hercules Compact mounting plate	16
Hercules "Compact" geometric specifications	17
Hercules "Compact" installation drawing	17
Hercules drawbar support / swivel support variants	18
Special technical feature	18
Hercules drawbar support / swivel support mounting plate	18
Hercules drawbar support / swivel support geometric specifications	19
Hercules drawbar support / swivel support installation drawing	19
Drop leg variant	20
Special technical feature	20
Drop leg mounting plate	21
Drop leg geometric specifications	21

Accessories and mount-on parts for the landing gear

Connecting shaft	22
Crank	23
Crank holder	24
Bracket for braces	24

Installation instructions

Selection	25
Mounting instructions	25
Installation – landing gear	26
Mounting – tolerances	27
Mounting – bracing	28
Mounting – crank	28
Putting into operation	28

Miscellaneous

Surface coating information	29
Operation	29
At a glance	30

General information

The landing gear is used as a lifting device during unhitching and hitching and as a support device during the parking of semi-trailers.

The support device is intended solely for attachment to a trailer used in Europe.

The country-specific road traffic regulations must be observed.

Type plate



Layout of the landing gear serial number:

XX JJ TTT NNNN

XX..... - Production site identification

JJ..... - Production year identification

TTT..... - Label: Current day of assembly

NNNN.... - Serial number identification

Example serial number: **25 16 179 0010**

This is the **10th** landing gear that was manufactured on production day **179** in the year **2016** at production site **25**.

Type code

Example: LGH G 85-51 T S

LGH G 85 - 51 T S

XXX0 X 00-00 X X

"X" stands for a letter.

"0" stands for a number.

Foot type:

S = Compensating shoe (standard)

T = Sandshoe – high

TC = Sandshoe – low

R = Wheel shoe

A = Rocker shoe

C = Round plate shoe

D = Fixed plate shoe

Mounting plate:

T = top S = swivelling

B = bottom F = full length C = adjustable

Installation height:

(first two digits is the mounting height in cm)

(last two digits is the travel in cm)

Hercules

85-51

80-46

75-41

70-40 (only with foot type S)

70-36

65-35 (only with foot type S)

65-31

Gear unit:

O = Landing leg without gear unit

G = Landing leg with gear unit

S = Set (all parts together)

Series:

LGH = Landing gear "Hercules"

LGHD = Landing gear "Hercules Drawbar"

LGHC = Landing gear "Hercules Compact"

LGDL = Landing gear "Drop-Leg"

The mounting height varies depending on the different foot options but the stroke remains the same.

Glossary

- A Distance between connecting shaft and bracing
- B Crank length
- C Distance between landing gear contact surface and inside of crank (low gear)
- D Distance between landing gear contact surface and inside of crank (high gear)
- E Length of connecting shaft ($E = F - 30\text{mm}$)
- F Distance between landing gear
- G Foot height
- H1 Ground clearance
- H2 Stroke reserve
- L Crank holder length
- T Travel
- M Mounting height

ON Order number

SN Serial number

Technical data

Technical data of the SAF support devices				
Landing gear	Hercules	Hercules Compact	Hercules drawbar support / swivel support	Drop leg
Lifting capacity	24,000 kg	24,000 kg	4,000 kg	-
Static load capacity	50,000 kg	50,000 kg	8,000 kg	-
Static support load	-	-	-	15,000 kg
Stroke per crank revolution				
Low gear	1 mm per revolution	1 mm per revolution	7.12 mm per revolution	-
Fast gear	12 mm per revolution	12 mm per revolution		-

Table 1

For the **Hercules** and **Hercules Compact**, the lifting and static load capacities are specified for a set of landing gears. For the **Hercules drawbar/swivel support**, the lifting capacity is specified per landing gear.

The **Hercules** and **Hercules Compact** landing gears feature a two-speed gear unit (low gear and high gear).

Shifting the high or the low gear on the **Hercules** and **Hercules Compact** landing gear is easily done by pulling and pushing the crank. The high gear is used to extend and retract the foot of the landing gear until it touches the ground. The low gear is used to raise and lower empty and loaded vehicles to the appropriate coupling height.

The **Hercules drawbar/swivel landing gear** features a single-speed gear unit.

Variants

Hercules variants

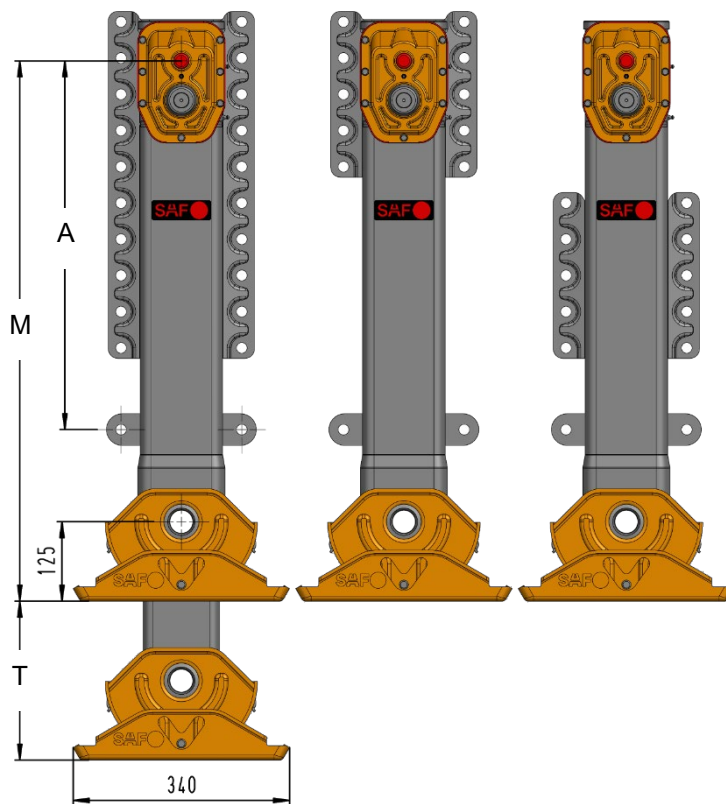


Figure 1

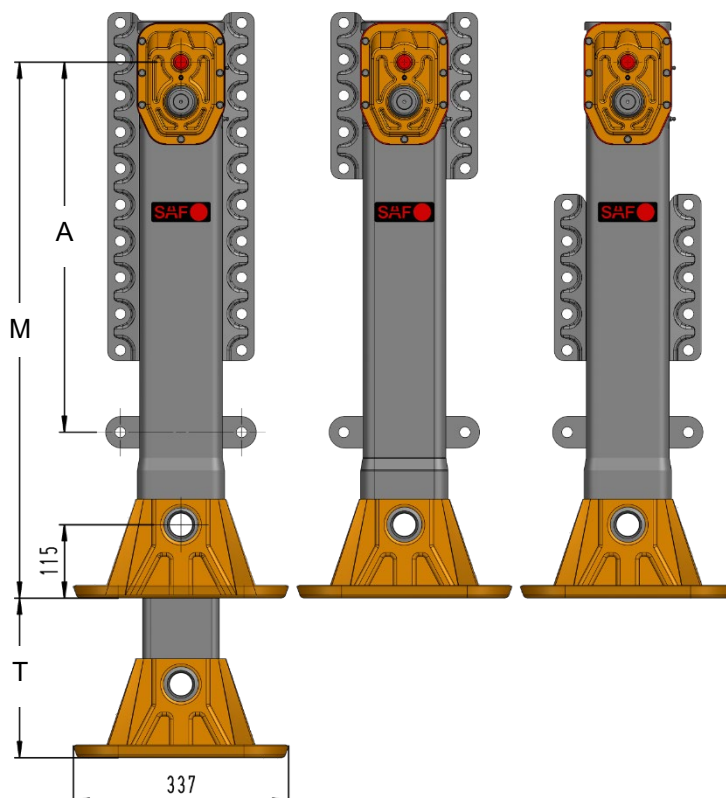


Figure 2

With compensating shoe Type S		
M [mm]	T [mm]	A [mm]
850	510	580
800	460	530
750	410	- / *480
700	400	- / *430
650	350	- / *380

Table 2

* With mounting plate "TOP"

With sandshoe high Type T		
M [mm]	T [mm]	A [mm]
840	510	580
790	460	530
740	410	- / *480
690	360	- / *430
640	310	- / *380

Table 3

* With mounting plate "TOP"

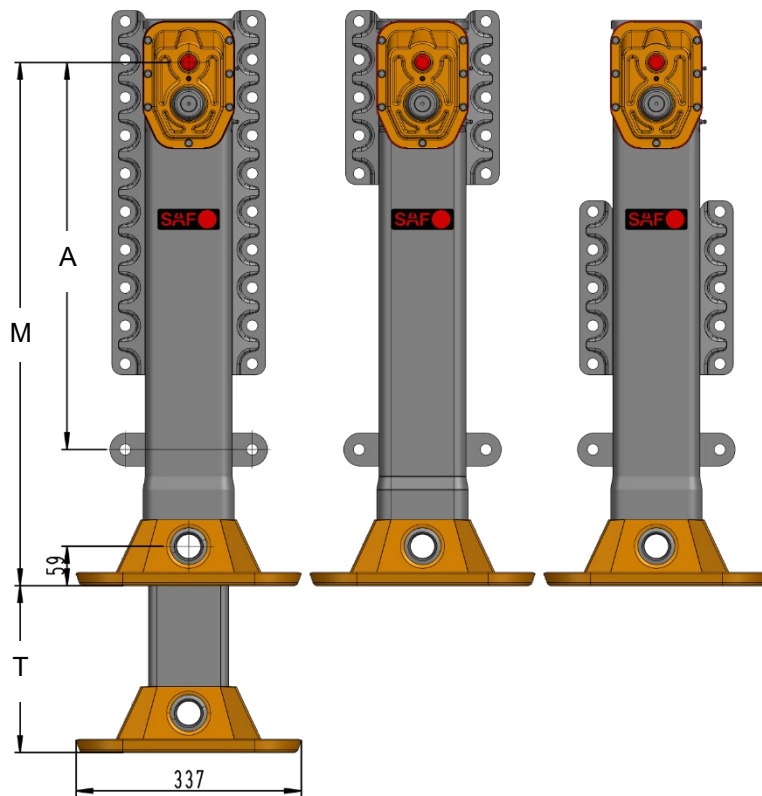


Figure 3

With sandshoe low Type TC		
M [mm]	T [mm]	A [mm]
785	510	580
735	460	530
685	410	- / *480
635	360	- / *430
585	310	- / *380

Table 4

* With mounting plate "TOP"

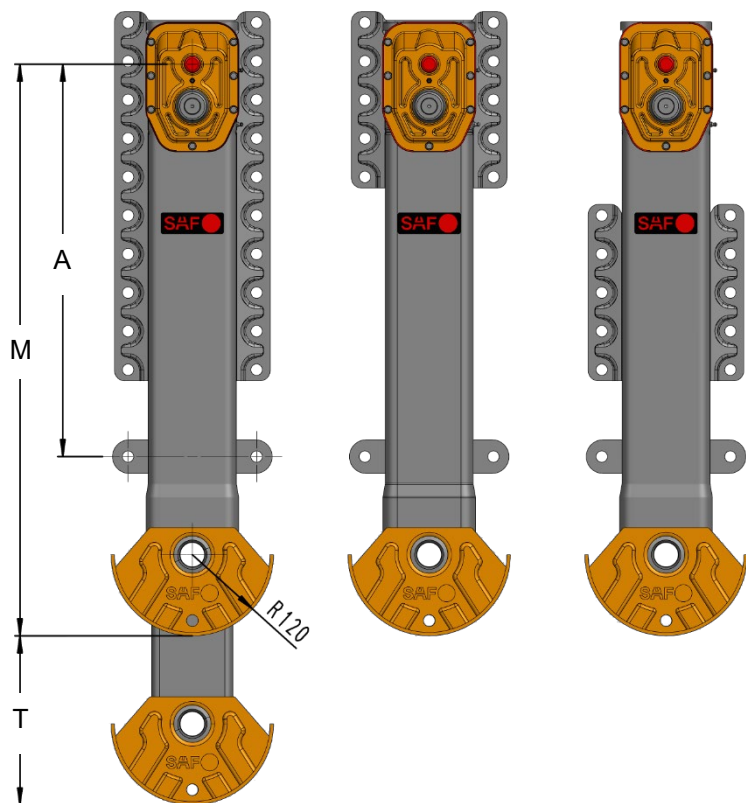


Figure 4

With rocker shoe Type A		
M [mm]	T [mm]	A [mm]
845	510	580
795	460	530
745	410	- / *480
695	360	- / *430
645	310	- / *380

Table 5

* With mounting plate "TOP"

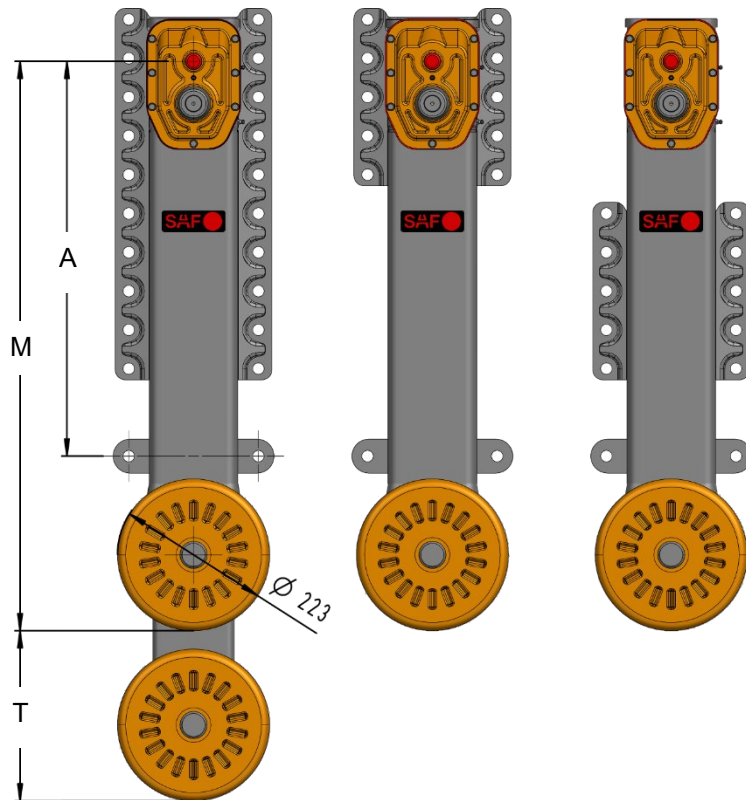


Figure 5

With wheel shoe Type R		
M [mm]	T [mm]	A [mm]
835	510	580
785	460	530
735	410	- / *480
*685	*360	- / *430
*635	*310	- / *380

Table 6

* With mounting plate "TOP"

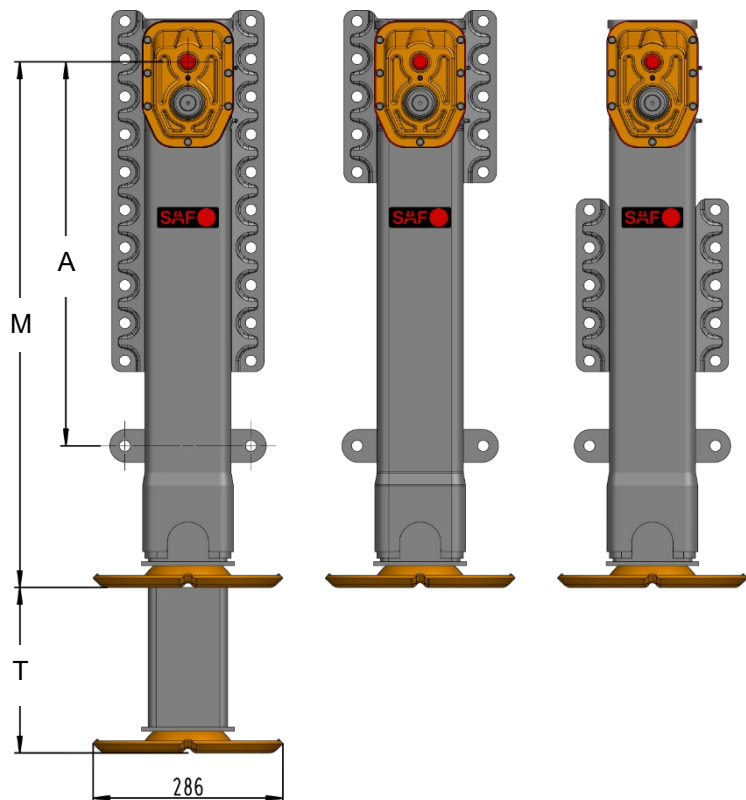


Figure 6

With round plate shoe Type C		
M [mm]	T [mm]	A [mm]
795	510	580
745	460	530
695	410	- / *480
645	360	- / *430
595	310	- / *380

Table 7

* With mounting plate "TOP"

Hercules mounting plates

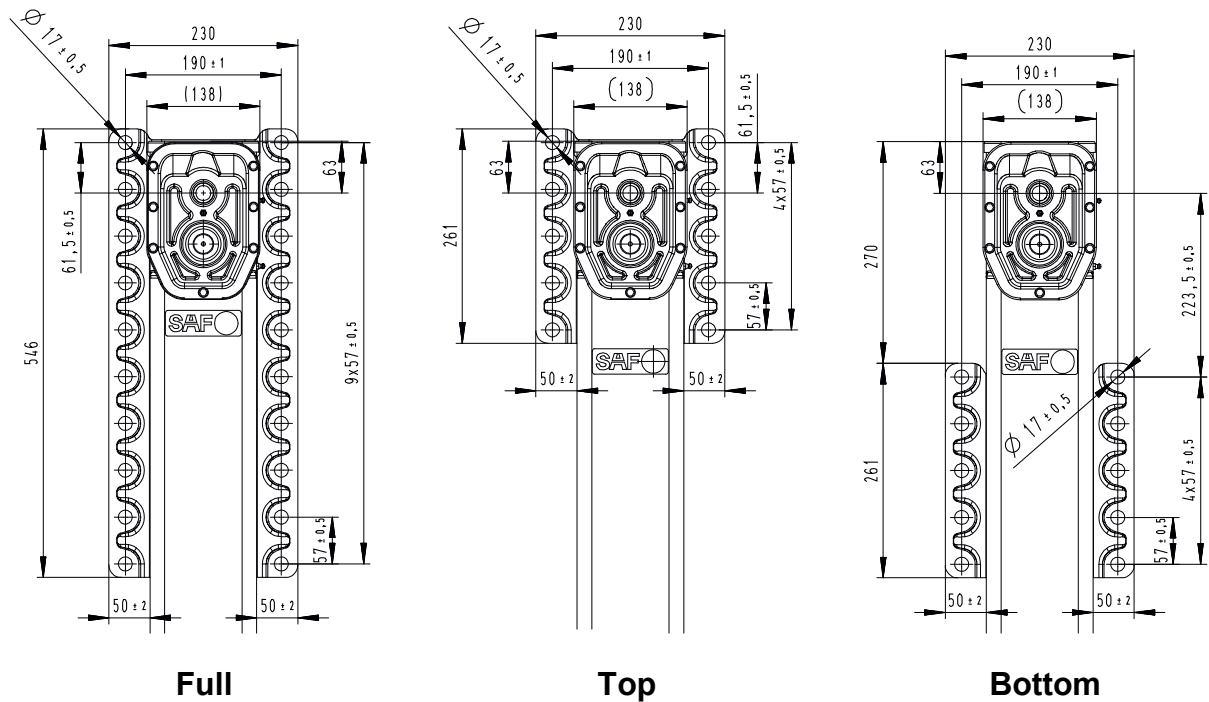


Figure 7

We recommend using M16 hexagon head bolts of strength class 8.8 and washers to screw the mounting plates to the vehicle frame. The specified tightening torque is 190 ± 10 Nm. The landing gear must be installed in accordance with the installation instructions, see [page 25](#).

The mounting plates allow for a wide range of different mounting options.

Care must be taken to ensure that there is sufficient clearance from adjacent components.

Hercules foot variants

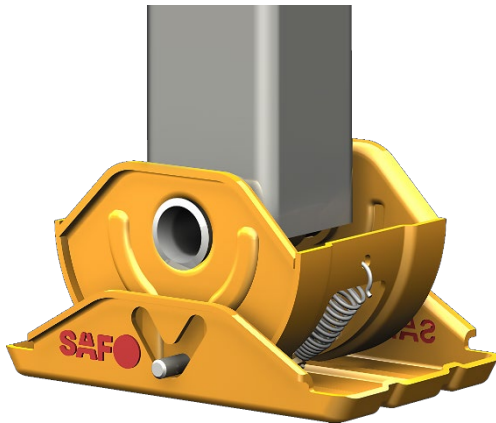


Figure 8 a
Compensating shoe 02 370 1000 / 1006 01

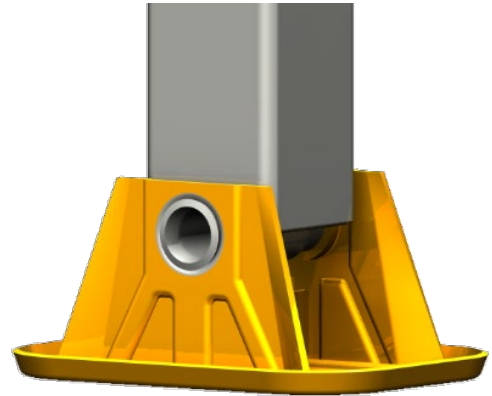


Figure 8 b
Sandshoe high 02 370 1001 00

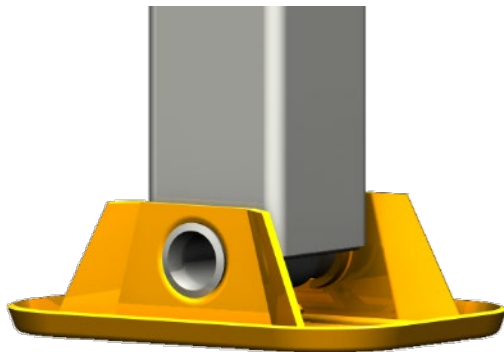


Figure 8 c
Sandshoe low 02 370 1004 00

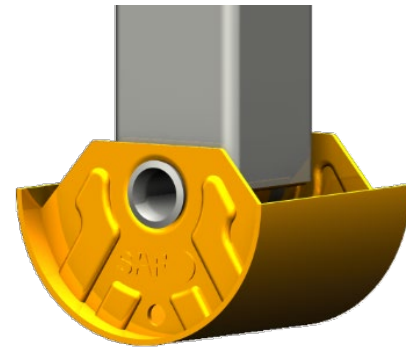


Figure 8 d
Rocker shoe 02 370 1002 00

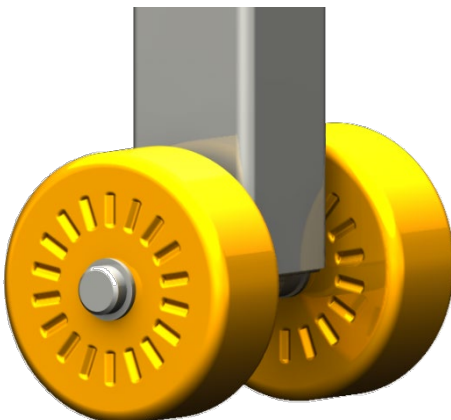


Figure 8 e
Wheel shoe 02 370 1003 00

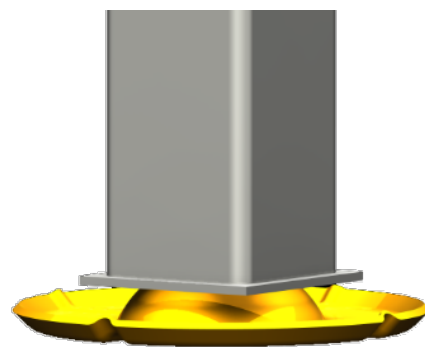


Figure 8 f
Round plate shoe 02 370 1005 00

Hercules geometric specifications

Landing legs with foot type S



Figure 9 a

Table 8

Landing leg with compensating shoe type S / part number				Mounting height	Stroke	Bracket for brace
with gear (with foot)	Weight [kg]	without gear (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0010 00	43.1	03 389 0009 00	39.5	650	350	-
03 389 0008 00	44.8	03 389 0007 00	41.2	700	400	-
03 389 0006 00	45.3	03 389 0005 00	41.7	750	410	-
03 389 0004 00	46.9	03 389 0003 00	43.3	800	460	530
03 389 0002 00	48.5	03 389 0001 00	45	850	510	580
Mounting plate "TOP"						
03 389 0210 00	40.8	03 389 0209 00	37.2	650	350	380
03 389 0208 00	42.5	03 389 0207 00	39	700	400	430
03 389 0206 00	43.6	03 389 0205 00	40	750	410	480
03 389 0204 00	44.4	03 389 0203 00	40.8	800	460	530
03 389 0202 00	46	03 389 0201 00	42.5	850	510	580
Mounting plate "BOTTOM"						
03 389 0110 00	40.8	03 389 0109 00	37.2	650	350	-
03 389 0108 00	42.5	03 389 0107 00	39	700	400	-
03 389 0106 00	43.6	03 389 0105 00	40	750	410	-
03 389 0104 00	44.4	03 389 0103 00	40.8	800	460	530
03 389 0102 00	46	03 389 0101 00	42.5	850	510	580

Landing legs with foot type T

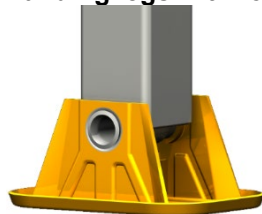


Figure 9 b

Table 9

Landing leg with sandshoe high type T / part number				Mounting height	Stroke	Bracket for brace
with gear (with foot)	Weight [kg]	without gear (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0020 00	40.3	03 389 0019 00	36.8	640	310	-
03 389 0018 00	42	03 389 0017 00	38.5	690	360	-
03 389 0016 00	43.7	03 389 0015 00	40.2	740	410	-
03 389 0014 00	45.3	03 389 0013 00	41.8	790	460	530
03 389 0012 00	47	03 389 0011 00	43.5	840	510	580
Mounting plate "TOP"						
03 389 0220 00	38	03 389 0219 00	34.5	640	310	380
03 389 0218 00	39.5	03 389 0217 00	36	690	360	430
03 389 0216 00	41.2	03 389 0215 00	38.5	740	410	480
03 389 0214 00	42.8	03 389 0213 00	39.3	790	460	530
03 389 0212 00	44.5	03 389 0211 00	41	840	510	580
Mounting plate "BOTTOM"						
03 389 0120 00	38	03 389 0119 00	34.5	640	310	-
03 389 0118 00	39.5	03 389 0117 00	36	690	360	-
03 389 0116 00	41.2	03 389 0115 00	38.5	740	410	-
03 389 0114 00	42.8	03 389 0113 00	39.3	790	460	530
03 389 0112 00	44.5	03 389 0111 00	41	840	510	580

Landing legs with foot type TC



Figure 9 c

Table 10

Landing leg with sandshoe low type TC / part number				Mounting height	Stroke	Bracket for brace
<u>with gear</u> (with foot)	Weight [kg]	<u>without gear</u> (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0030 00	38.8	03 389 0029 00	35.3	585	310	-
03 389 0028 00	40.5	03 389 0027 00	37	635	360	-
03 389 0026 00	42.2	03 389 0025 00	38.7	685	410	-
03 389 0024 00	43.8	03 389 0023 00	40.3	735	460	530
03 389 0022 00	45.5	03 389 0021 00	42	785	510	580
Mounting plate "TOP"						
03 389 0230 00	36.5	03 389 0229 00	33	585	310	380
03 389 0228 00	38	03 389 0227 00	34.5	635	360	430
03 389 0226 00	40.5	03 389 0225 00	37	685	410	480
03 389 0224 00	41.3	03 389 0223 00	37.8	735	460	530
03 389 0222 00	43	03 389 0221 00	39.5	785	510	580
Mounting plate "BOTTOM"						
03 389 0130 00	36.5	03 389 0129 00	33	585	310	-
03 389 0128 00	38	03 389 0127 00	34.5	635	360	-
03 389 0126 00	40.5	03 389 0125 00	37	685	410	-
03 389 0124 00	41.3	03 389 0123 00	37.8	735	460	530
03 389 0122 00	43	03 389 0121 00	39.5	785	510	580

Landing legs with foot type A



Figure 9 d

Table 11

Landing leg with rocker shoe type A / part number				Mounting height	Stroke	Bracket for brace
<u>with gear</u> (with foot)	Weight [kg]	<u>without gear</u> (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0040 00	41.6	03 389 0039 00	38.2	645	310	-
03 389 0038 00	43.3	03 389 0037 00	39.8	695	360	-
03 389 0036 00	44.9	03 389 0035 00	41.5	745	410	-
03 389 0034 00	46.6	03 389 0033 00	43.1	795	460	530
03 389 0032 00	48.3	03 389 0031 00	44.8	845	510	580
Mounting plate "TOP"						
03 389 0240 00	39.3	03 389 0239 00	36	645	310	380
03 389 0238 00	40.8	03 389 0237 00	37.5	695	360	430
03 389 0236 00	43.2	03 389 0235 00	39.8	745	410	480
03 389 0234 00	44.1	03 389 0233 00	40.6	795	460	530
03 389 0232 00	45.8	03 389 0231 00	42.3	845	510	580
Mounting plate "BOTTOM"						
03 389 0140 00	39.3	03 389 0139 00	36	645	310	-
03 389 0138 00	40.8	03 389 0137 00	37.5	695	360	-
03 389 0136 00	43.2	03 389 0135 00	39.8	745	410	-
03 389 0134 00	44.1	03 389 0133 00	40.6	795	460	530
03 389 0132 00	45.8	03 389 0131 00	42.3	845	510	580

Landing legs with foot type R

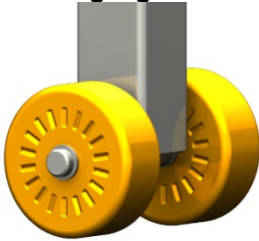


Figure 9 e

Table 12

Landing leg with wheel shoe type R / part number				Mounting height	Stroke	Bracket for brace
with gear (with foot)	Weight [kg]	without gear (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0046 00	50.3	03 389 0045 00	46.8	735	410	-
03 389 0044 00	51.9	03 389 0043 00	48.4	785	460	530
03 389 0042 00	53.6	03 389 0041 00	50.1	835	510	580
Mounting plate "TOP"						
03 389 0250 00	44.5	03 389 0249 00	42.2	635	310	380
03 389 0248 00	46	03 389 0247 00	43.7	685	360	430
03 389 0246 00	48.5	03 389 0245 00	45.9	735	410	480
03 389 0244 00	49.3	03 389 0243 00	46.8	785	460	530
03 389 0242 00	51	03 389 0241 00	48.5	835	510	580
Mounting plate "BOTTOM"						
03 389 0146 00	48.5	03 389 0145 00	45.9	735	410	-
03 389 0144 00	49.3	03 389 0143 00	46.8	785	460	530
03 389 0142 00	51	03 389 0141 00	48.5	835	510	580

Landing legs with foot type C

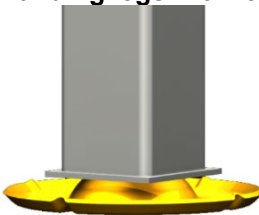


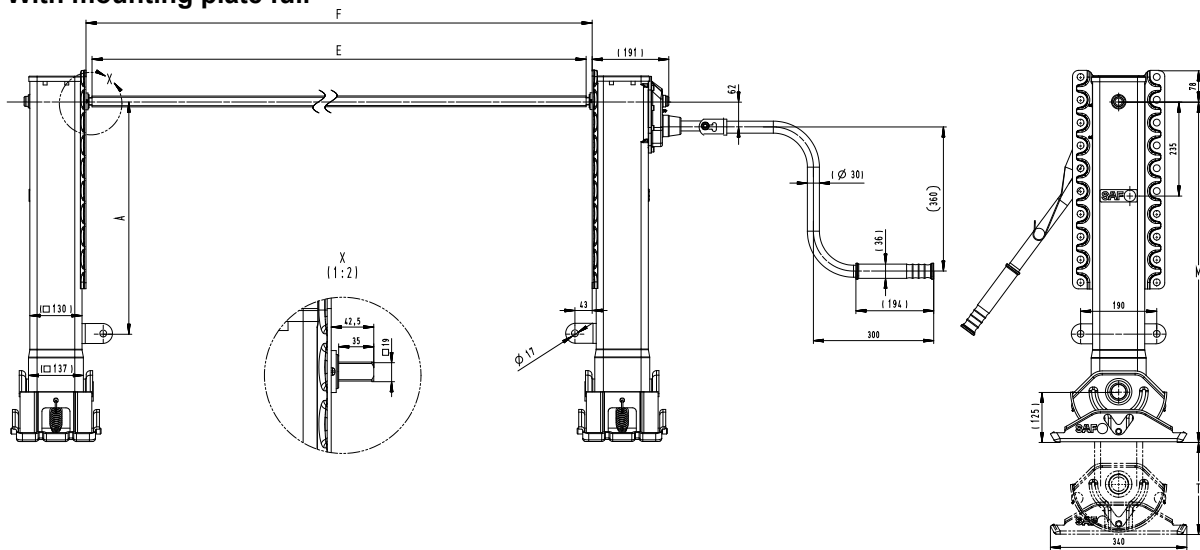
Figure 9 f

Table 13

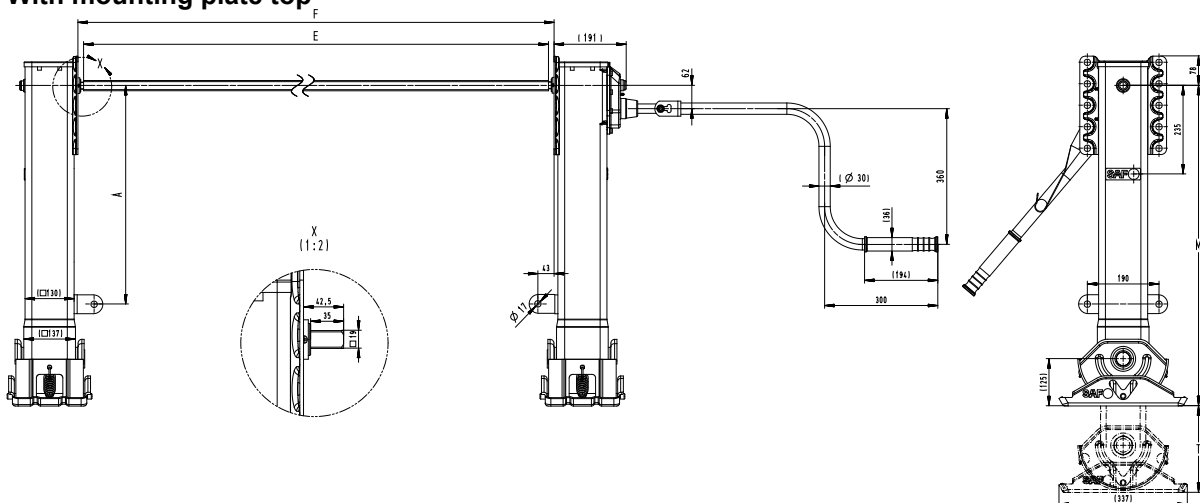
Landing leg with round plate shoe type C / part number				Mounting height	Stroke	Bracket for brace
with gear (with foot)	Weight [kg]	without gear (with foot)	Weight [kg]	M [mm]	T [mm]	A [mm]
Mounting plate "FULL"						
03 389 0060 00	40.6	03 389 0059 00	37	595	310	-
03 389 0058 00	42.2	03 389 0057 00	38.6	645	360	-
03 389 0056 00	43.6	03 389 0055 00	40.3	695	410	-
03 389 0054 00	45.5	03 389 0053 00	42	745	460	530
03 389 0052 00	47.2	03 389 0051 00	43.6	795	510	580
Mounting plate "TOP"						
03 389 0260 00	39.3	03 389 0259 00	34.8	595	310	380
03 389 0258 00	39.7	03 389 0257 00	36.1	645	360	430
03 389 0256 00	42.2	03 389 0255 00	38.6	695	410	480
03 389 0254 00	43	03 389 0253 00	39.5	745	460	530
03 389 0252 00	44.7	03 389 0251 00	41.1	795	510	580
Mounting plate "BOTTOM"						
03 389 0160 00	39.3	03 389 0159 00	34.8	595	310	-
03 389 0158 00	39.7	03 389 0157 00	36.1	645	360	-
03 389 0156 00	42.2	03 389 0155 00	38.6	695	410	-
03 389 0154 00	43	03 389 0153 00	39.5	745	460	530
03 389 0152 00	44.7	03 389 0151 00	41.1	795	510	580

Hercules installation drawing

With mounting plate full



With mounting plate top



With mounting plate bottom

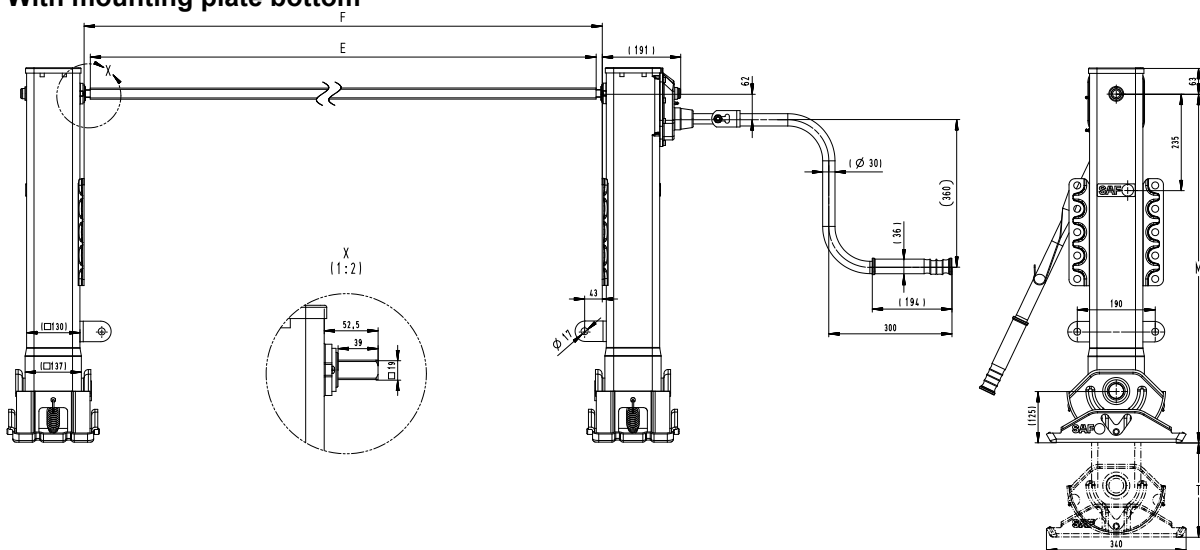


Figure 10

Illustrations with compensating shoe type S

Hercules "Compact" variants

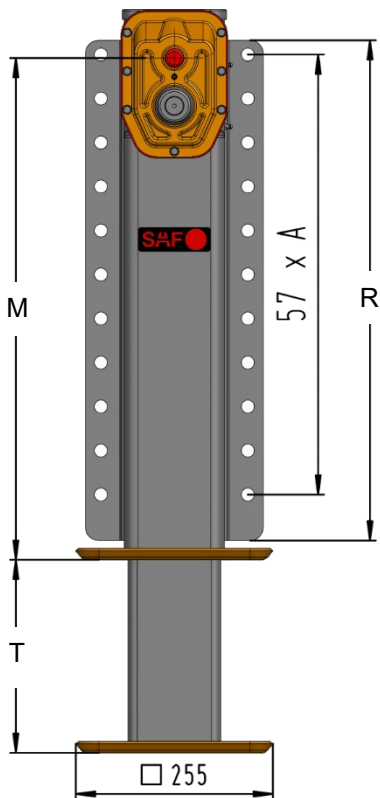


Figure 11

With foot Type D			
M [mm]	T [mm]	A [mm]	R [mm]
650	430	580	648
600	380	530	598
550	330	530	548
500	280	430	498
450	230	380	448

Table 14

Hercules Compact mounting plate

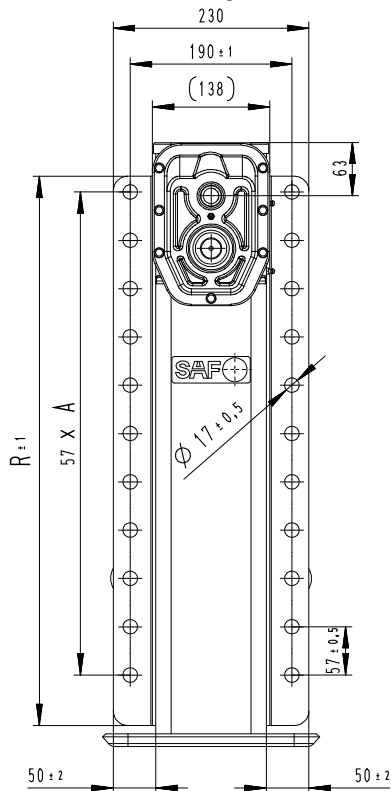


Figure 12

We recommend using M16 hexagon head bolts of strength class 8.8 and washers to screw the mounting plates to the vehicle frame. The specified tightening torque is 190 ± 10 Nm. The landing gear must be installed in accordance with the installation instructions, see [page 25](#).

The mounting plate allows for a wide range of different mounting options.

Care must be taken to ensure that there is sufficient clearance from adjacent components.

Hercules "Compact" geometric specifications

Landing legs with foot type D



Figure 13

Table 15

Landing leg with fixed plate shoe type D / part number				Mounting height	Stroke	Length mounting plate	Number of holes
with gear (with foot)	Weight [kg]	without gear (with foot)	Weight [kg]	M [mm]	T [mm]	R [mm]	A [mm]
03 389 0180 00	27.3	03 389 0179 00	23.8	450	230	448	8
03 389 0178 00	29.3	03 389 0177 00	25.8	500	280	498	8
03 389 0176 00	31.3	03 389 0175 00	27.8	550	330	548	9
03 389 0174 00	33.7	03 389 0173 00	30.4	600	380	598	9
03 389 0172 00	35.7	03 389 0171 00	32.2	650	430	648	10

Hercules "Compact" installation drawing

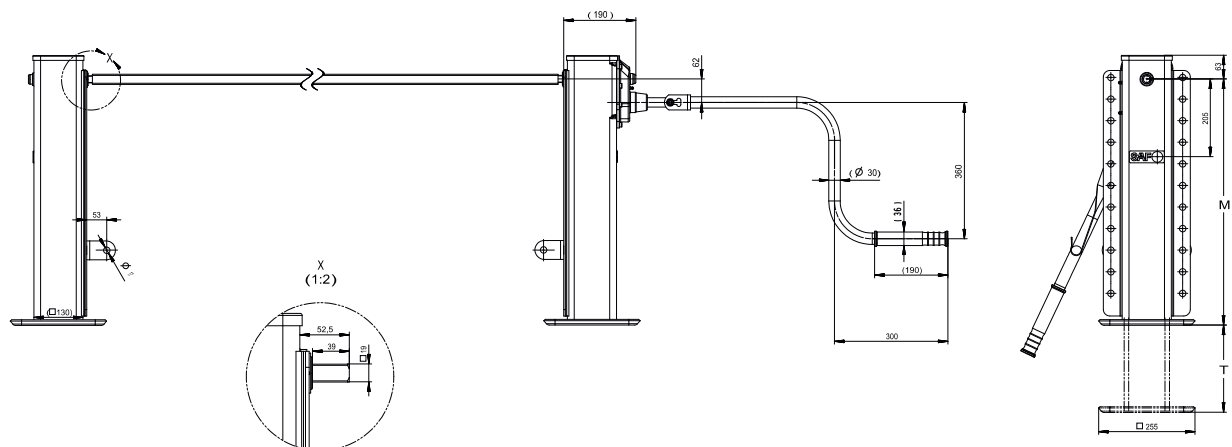


Figure 14

Illustrations with fixed plate shoe type D

Hercules drawbar support / swivel support variants

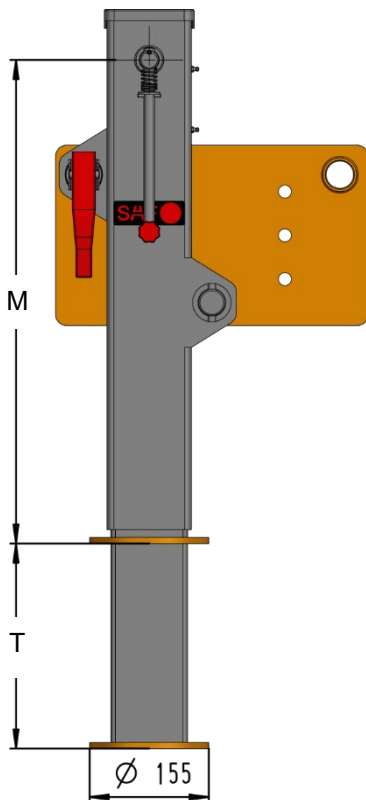


Figure 15

With foot Type D	
M [mm]	T [mm]
630	400
580	350
530	300
480	250
430	200

Table 16

Special technical feature

- For attachment to the drawbar of a tandem trailer.
- Compact design and a large stroke together with a low installation height.
- Generous ground clearance by swivelling the support.

Hercules drawbar support / swivel support mounting plate

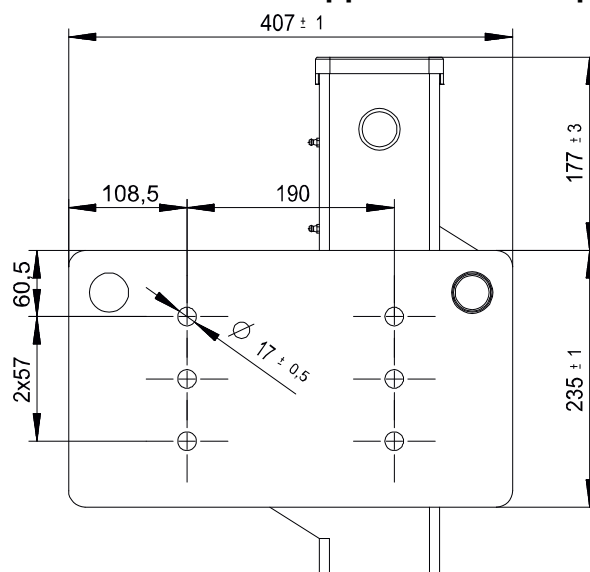


Figure 16

We recommend using six M16 hexagon head bolts of strength class 8.8 and washers to screw the mounting plates to the vehicle frame. The specified tightening torque is 190 ± 10 Nm.

Moreover, care must be taken to ensure that there is sufficient clearance from adjacent components.

Hercules drawbar support / swivel support geometric specifications

Landing legs with foot type D



Figure 17

Table 17

Landing leg with fixed plate shoe type D / part number		Mounting height	Stroke	TYPE
with gear (with foot)	Weight [kg]	M [mm]	T [mm]	LGHD .. S D [mm]
03 389 0185 00	29	430	200	43-20
03 389 0184 00	30.5	480	250	48-25
03 389 0183 00	32	530	300	53-30
03 389 0182 00	33.5	580	350	58-35
03 389 0181 00	35	630	400	63-40

Hercules drawbar support / swivel support installation drawing

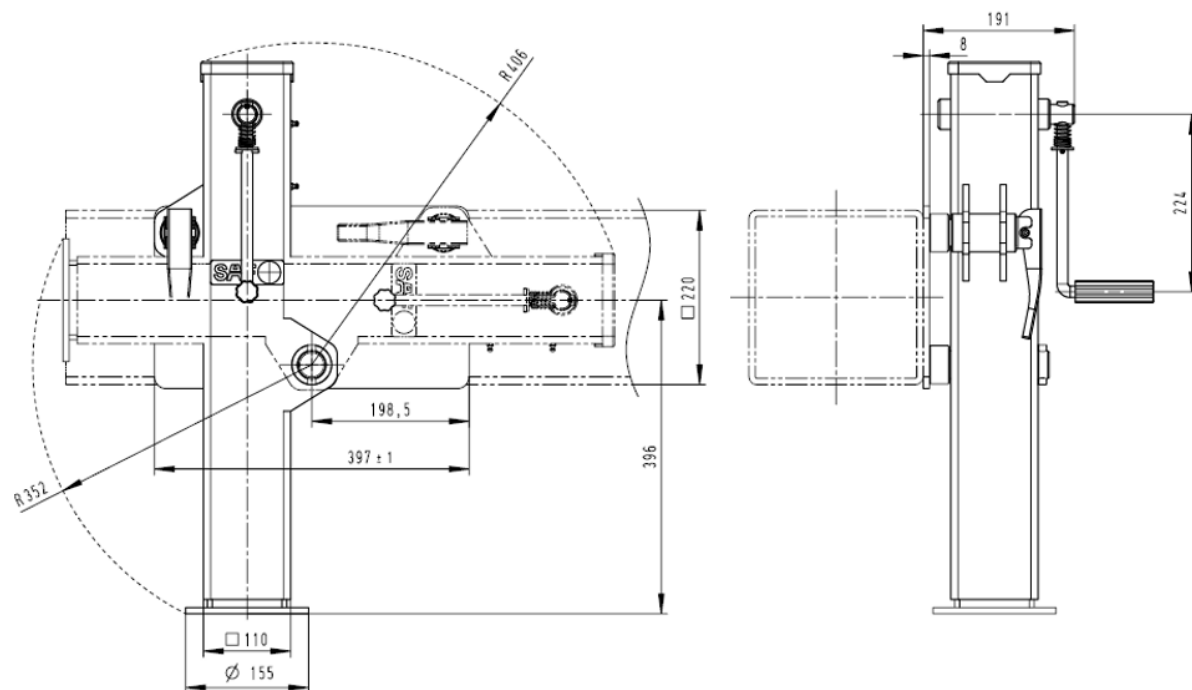


Figure 18

Illustrations with fixed plate shoe type D

Drop leg variant

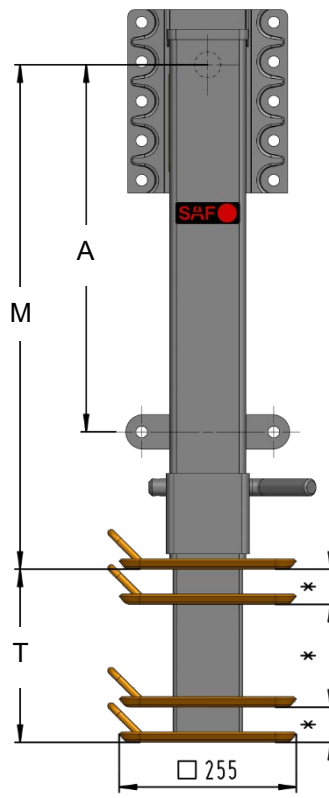


Figure 19

With foot Type D	
M [mm]	T [mm]
750	* First lifting step 50.8 ** Second lifting step 21 x 25.4 *** Third lifting step 50.8 Total lift 635

Table 18

Special technical feature

- The drop is variable over several steps and can be adjusted precisely.
- Simple height adjustment of the foot.
- Suitable for all trailers (not suitable for ferrying).
- Two drop legs must be installed per vehicle.
- Side securing position
- Fixed plate shoe type D

Drop leg mounting plate

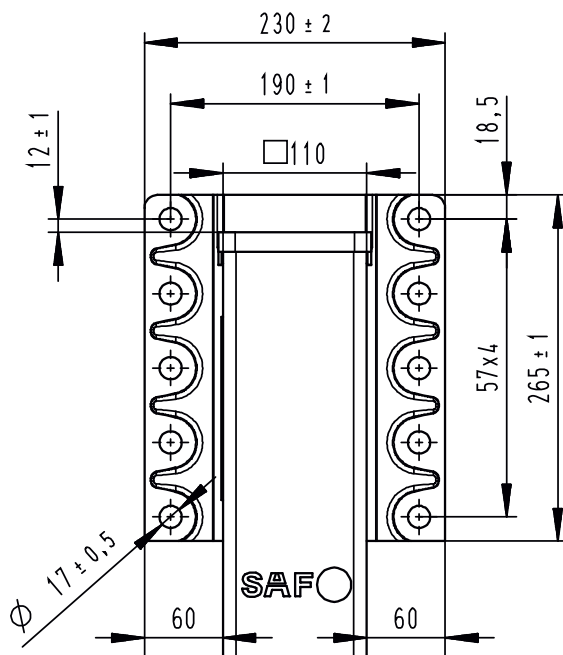


Figure 20

We recommend using M16 hexagon head bolts of strength class 8.8 and washers to screw the mounting plates to the vehicle frame. The specified tightening torque is 190 ± 10 Nm. The landing gear must be installed in accordance with the installation instructions, see [page 25](#).

The mounting plate allows for a wide range of different mounting options.

Care must be taken to ensure that there is sufficient clearance from adjacent components.

Drop leg geometric specifications

Landing legs with foot type D



Figure 21

Table 19

Landing leg with fixed plate shoe type D / part number		Mounting height	Stroke	TYPE
with gear (with foot)	Weight [kg]	M [mm]	T [mm]	LGDL T D [mm]
03 389 0165 00	25	750	630	75-63

Accessories and mount-on parts for the landing gear

Connecting shaft

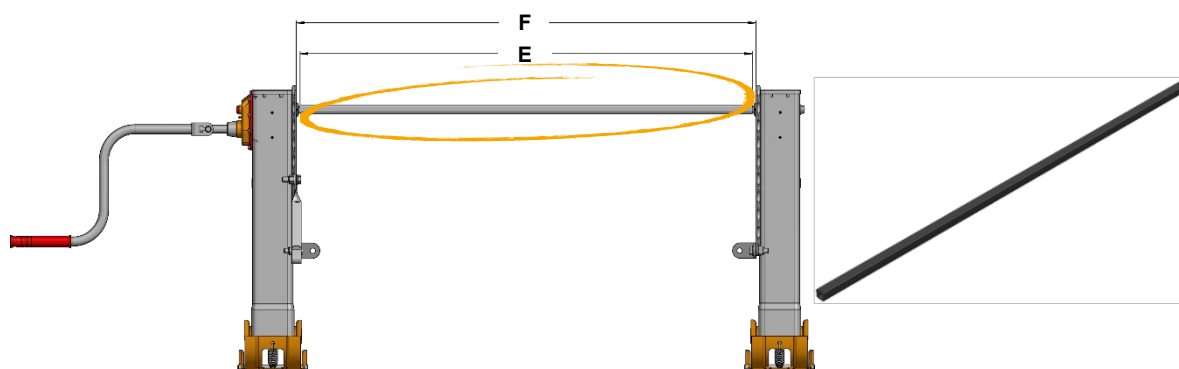


Figure 22

Table 20

Connecting shaft			
Part no.	E [mm]	F [mm]	Weight [kg]
01 435 0022 00	1164	1194	3.3
01 435 0023 00	1340	1370	3.8
01 435 0024 00	1440	1470	4.1
01 435 0025 00	1450	1480	4.1
01 435 0026 00	1470	1500	4.2
01 435 0027 00	1500	1530	4.2
01 435 0028 00	1505	1535	4.4
01 435 0029 00	1575	1605	4.5
01 435 0030 00	1600	1630	4.5
01 435 0031 00	1605	1635	4.6
01 435 0032 00	1635	1665	4.7
01 435 0033 00	1700	1730	4.7
01 435 0034 00	1790	1820	5.0
01 435 0035 00	1800	1830	5
01 435 0036 00	1950	1980	5.3
01 435 0037 00	1425	1455	4
01 435 0038 00	1110	1140	3.2
01 435 0039 00	1535	1565	4.4
01 435 0040 00	1395	1425	4
01 435 0041 00	1570	1600	4.5
01 435 0047 00	1290	1320	3.6
01 435 0050 00	1360	1390	3.8
	E = F – 30		Approx. 2.8 kg/m

Crank

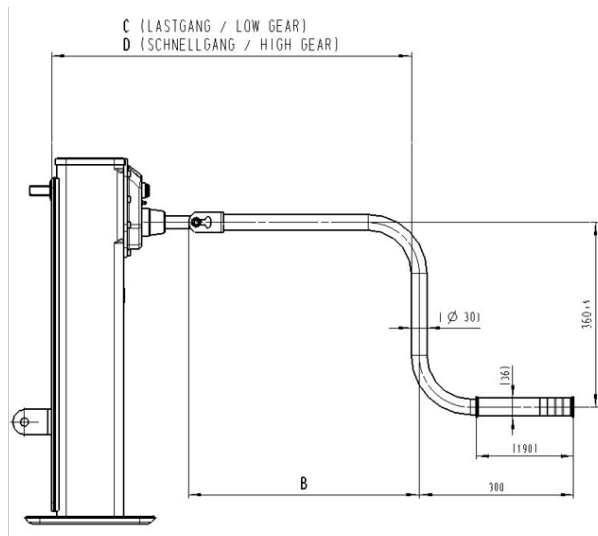


Figure 23

Table 21

Crank			
Part No.	B [mm] Crank length	C [mm] Low gear	D [mm] Fast gear
01 209 0001 00	285	498	514
01 209 0002 00	350	563	579
01 209 0003 00	450	663	679
01 209 0004 00	535	748	764
01 209 0005 00	605	818	834
01 209 0015 00	415	628	644

With the smallest mounting height, low stroke 310 / 350 mm and longest crank, please use a suitable crank holder so that the crank is not installed lower than the landing leg. See below **Figure 24**.

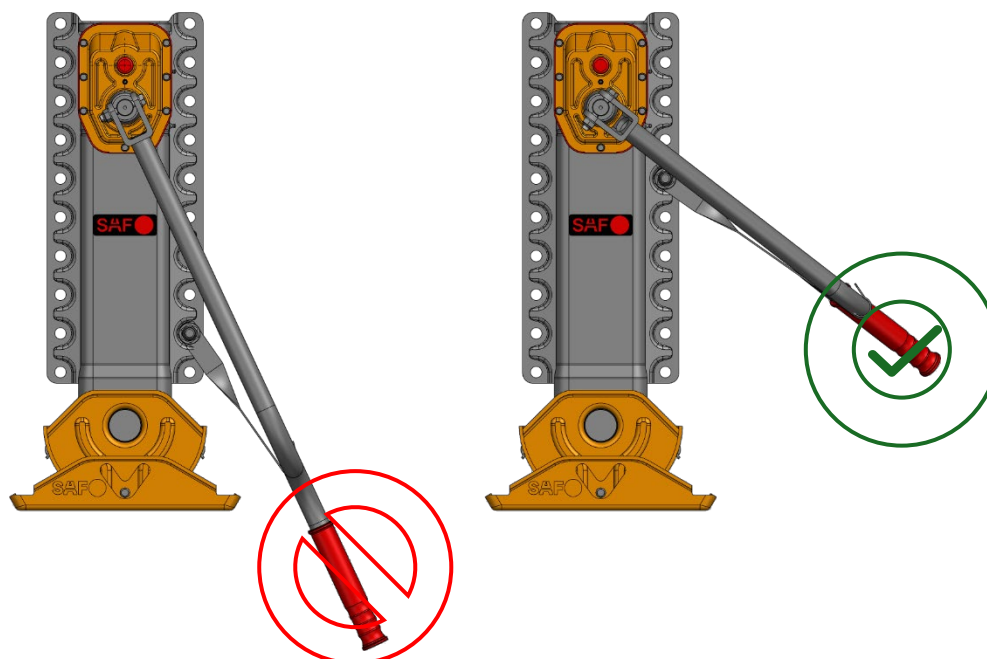


Figure 24

Pay attention to the length of the crank and the position of the crank holder to ensure that the crank is not installed lower than the landing leg.

Crank holder

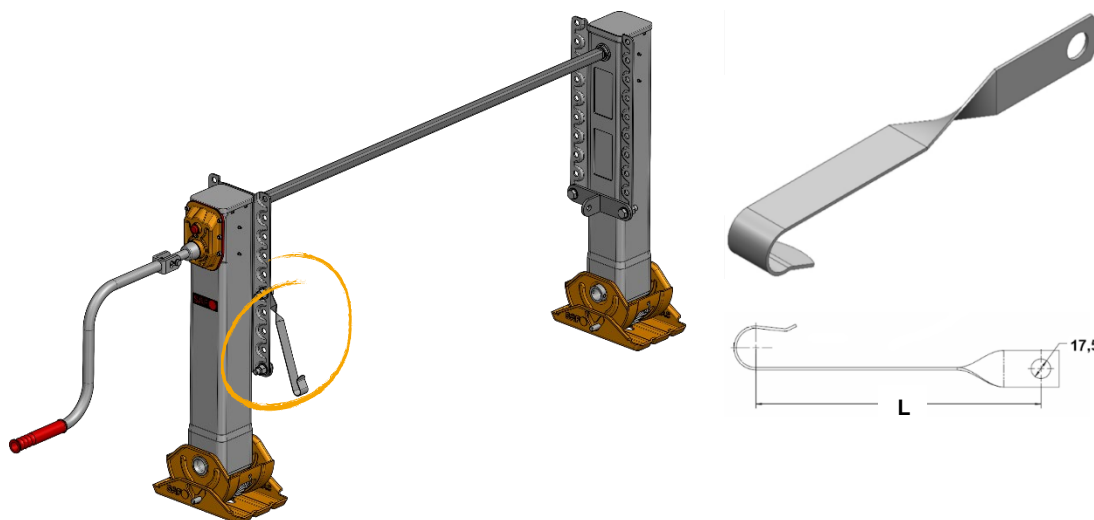


Figure 25

Table 22

Crank holder	
Part No.	L [mm]
01 189 0135 00	245
01 189 0136 00	345
01 189 0195 00	180

The crank holder is used to hook the crank in. It is screwed to the mounting plate. Depending on the design of the vehicle frame, the position of the bracket may be determined by the vehicle manufacturer. See Figure 25.

Bracket for braces

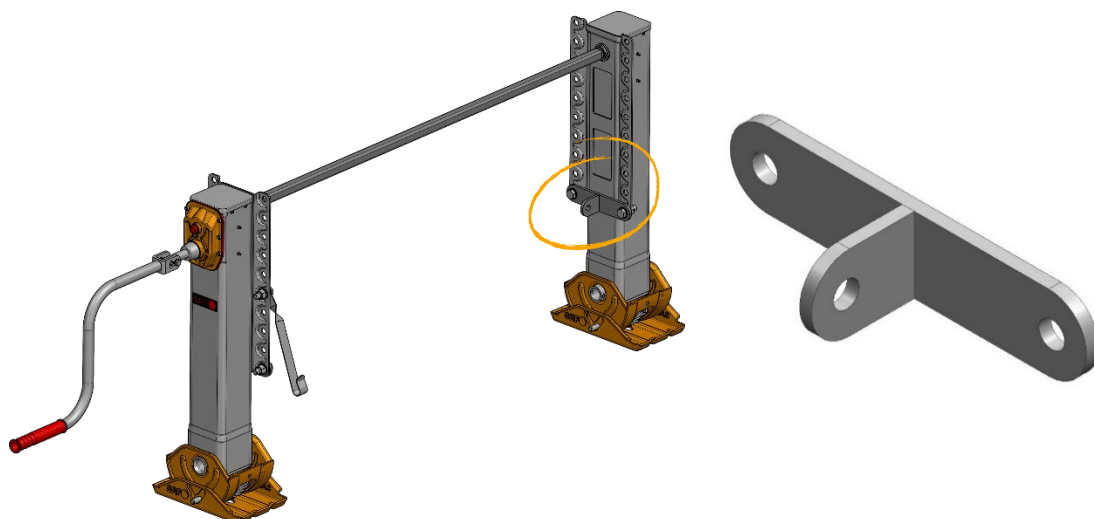


Figure 26

Part number 02 045 0057 00

The bracket is used to brace the support laterally, transversely and diagonally. See [page 28, Figure 29](#).

Installation instructions

Selection

When selecting landing gears, the installation space, required ground clearance, lift, load to be supported and the appropriate support foot must be taken into account. Moreover, only landing gears of the same series must be used on the right and left sides.

Mounting instructions

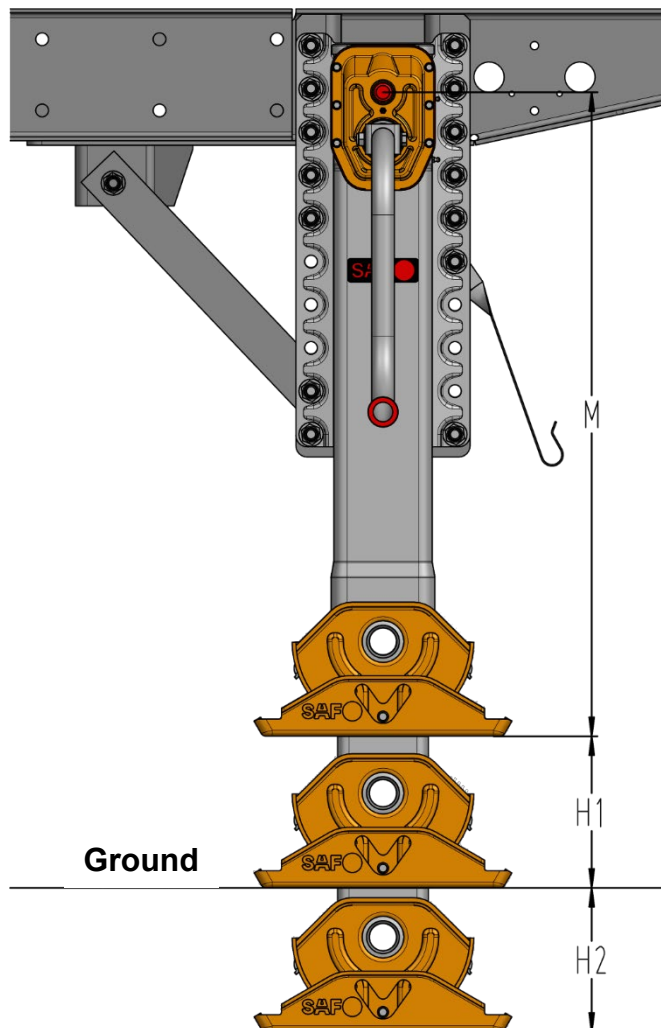


Figure 27

M = Mounting height

H1 = Minimum ground clearance 250 mm

H2 = Minimum stroke reserve approx. 120 mm

When mounting them, make sure that both support legs touch the ground at the same time when the landing gear is extended. Uneven loads on the supports can cause damage to or failure of the legs.

Observe the ISO 1726 clearance requirements for the tractor unit.

Installation – landing gear

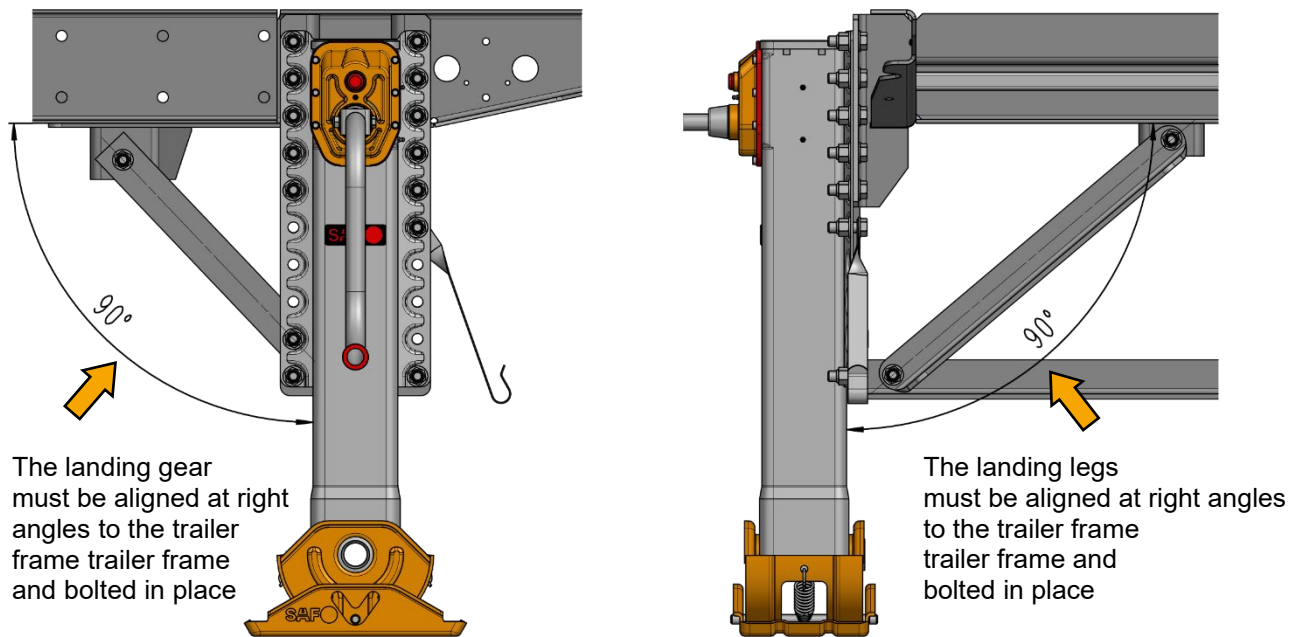


Figure 28

1. Selection and preparation

- The required landing gear jack must be selected in accordance with to the mounting height and driving height of the trailer.
- Mounting instructions, mounting height, ground clearance and the required lift reserve must be observed ([see Fig. 27](#)).
- Before installation, the landing gear must be fully retracted until they reach their mechanical stop.

2. Alignment of the landing gear

- The landing gears must be aligned at right angles both lengthways and crossways and in parallel with the trailer frame.
- Correct alignment is a prerequisite for even load distribution and trouble-free operation.

3. Connecting shaft

- The correct connecting shaft must be selected according to the installation conditions.
- Check the length of the connecting shaft (dimension E) and adjust if necessary (see Table 16, page 18).
- When installing the connecting shaft, the axial play must not exceed 5 ± 3 mm.
- The connecting shaft must be inserted without tension and without twisting.

4. Screwing of the landing gears

- A minimum of ten M16 hexagon head bolts of strength class 8.8 must be used per landing gear.
- In addition, ten M16 hexagon nuts and ten washers must be fitted.
- The length of the bolts should be selected to match the thickness of the trailer frame.
- The tightening torque is 190 ± 10 Nm.

If, for design reasons, the landing gear cannot be secured with ten bolts, it must be screwed down with the maximum permissible screw spacing.

5. Crank

- The appropriate crank must be selected in accordance with [Table 17, page 23](#). In particular, the crank length must be taken into account ([see Figure 24](#)).
- The crank must be mounted as described on page 28.

6. Bracing

- The bracing of the landing gear must be designed as shown in the diagram and described on page 28, Fig. 30.
- The purpose of the bracing is to ensure optimal force transfer to the trailer frame.

7. Putting into operation

- Once installation is complete, an initial operation test must be carried out as described on page 28.
- In particular, the following must be checked: extending and retracting the legs, switching between fast and low gear and ensuring that the support legs touch the ground at the same time.

Mounting – tolerances

Ensure that the mounting surface is flat and observe the position of the output shaft.

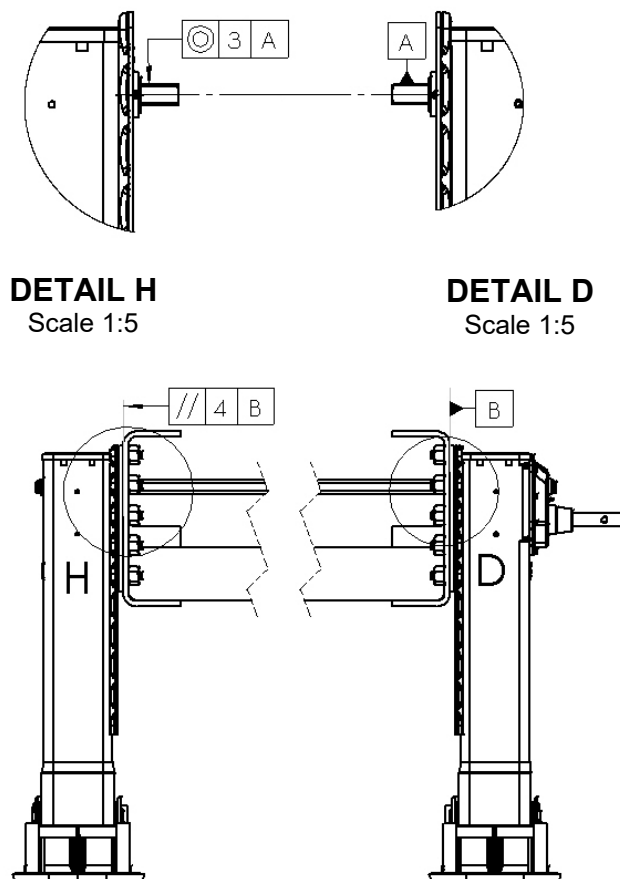


Figure 29

Please observe the tolerances for parallelism and concentricity because otherwise the function of the connecting shaft will be impaired. The connecting shaft must not be tilted. If the connecting shaft is difficult to turn, this is a sign of incorrect assembly or wrong selection of tolerances.

Mounting – bracing

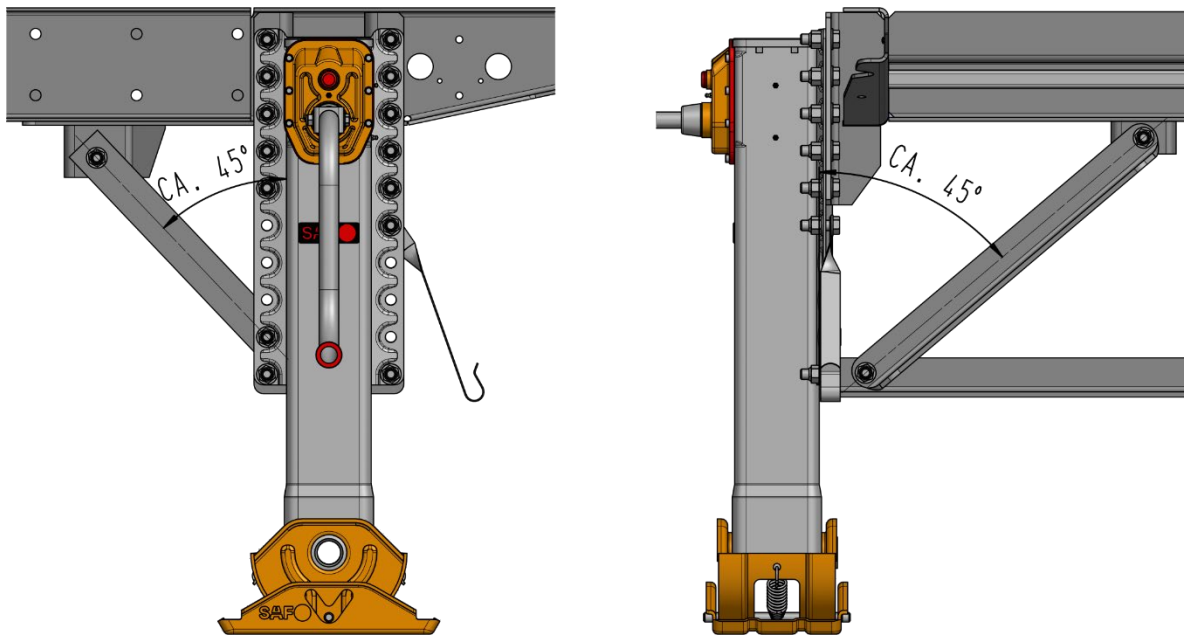


Figure 30 In the direction of the trailer

Perpendicular to the direction of the trailer

The landing gear must be braced in such a way that the forces are transferred to the chassis in the most effective manner.

Each set must include at least ten M16 hexagon head bolts of strength class 8.8 (length to match the vehicle frame), ten M16 hexagon nuts and ten washers; the tightening torque is 190 ± 10 Nm

A bracing angle of 45 degree is recommended in order to optimally transfer the forces into the chassis. See Fig. 30.

Mounting – crank

- The crank is fitted using an M10 8.8 bolt with a tightening torque of 25 Nm.
- The crank must be able to turn freely at the outer contour of the vehicle without any risk of crushing.
- Please note the shifting travel between high gear and low gear. * (The relevant dimension here is C.)
- During driving, the crank must be secured in a crank holder.
- Select the correct length of crank holder

Putting into operation

- Unhook the crank and plug it in.
- Push the crank in and out to switch to low gear and back to fast gear.
- Extend both supports in fast gear until they touch the ground, ensuring that they touch the ground simultaneously.
- Push the crank into low gear and lift the vehicle.
- Release the crank slowly to prevent it from snapping back.
- Securely hook the crank into the crank holder.

If everything goes smoothly, return the support to its original position.

Miscellaneous

Surface coating information

Corrosion protection

- KTL + powder coating, black (RAL 9005)

Powder coating

- Can be painted over with all standard 1K and 2K top coats.
- Corrosion protection: minimum 504 hours in a salt spray test in accordance with DIN 50021.

Operation

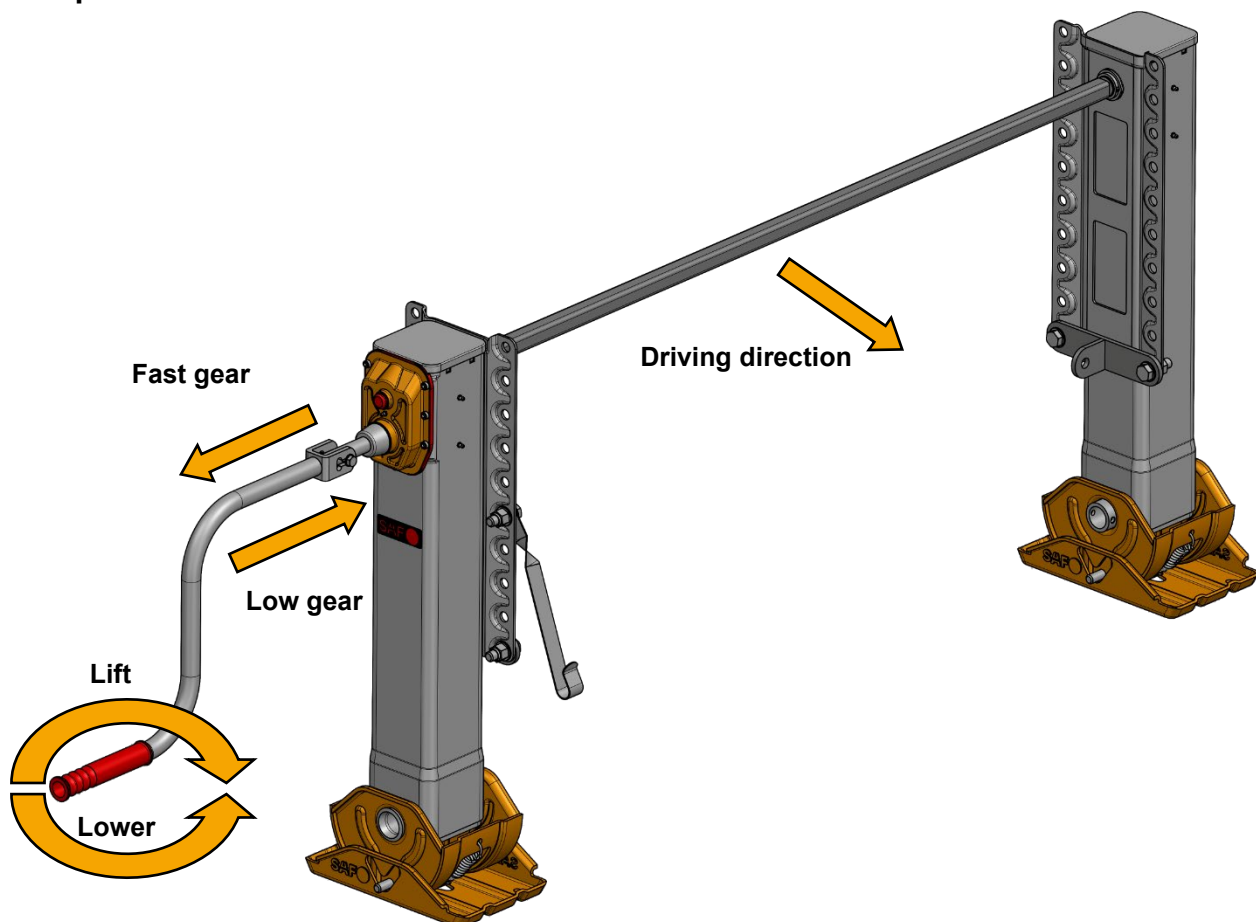


Figure 31

Fast gear: To switch to fast gear, pull the crank out until the interlock mechanism engages. - Used to extend and retract the support device quickly and to compensate for ground clearance.

Low gear: To switch to low gear, push the crank in until the interlock mechanism engages. - Used to raise and lower the support device on a trailer in loaded or unloaded condition.

Lift: Turn the crank clockwise to extend the support.

Lower: Turn the crank anticlockwise to retract the support.

At a glance

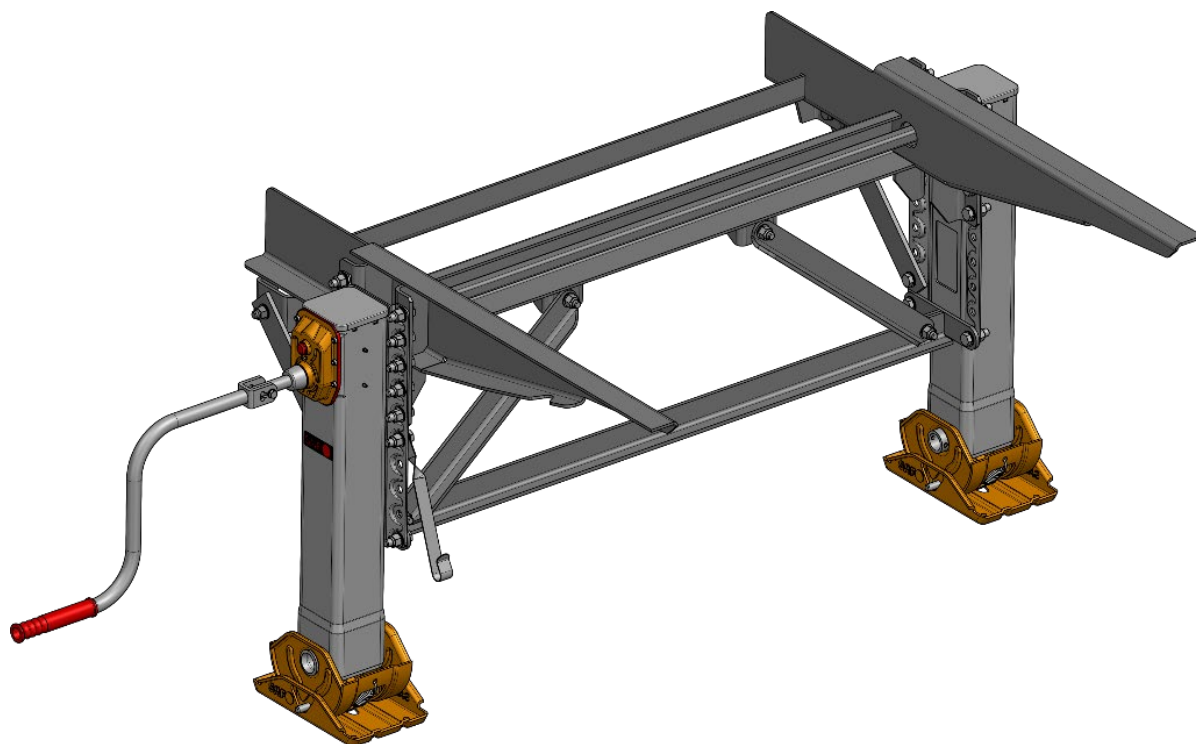


Figure 32