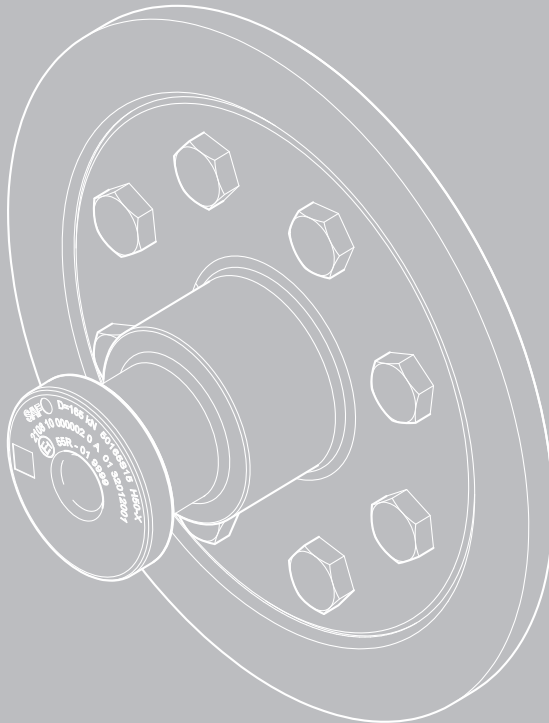


Owner's Manual

SAF fifth wheel kingpin 50S15 - 90S18



XL-KP11695BM-en-DE Rev. A

Translation of the original owner's
manual

1.1 Dear customer,

This operating manual will help you to familiarise yourself with the SAF-HOLLAND product and use it for its proper use.

The operating manual contains important instructions on how to operate the product safely, properly and economically. Adherence to it helps prevent hazards, faults and reduce down times and increase the reliability and service life of the product. Read the operating manual through carefully and follow the instructions accurately.

It must be ensured that all personnel with responsibility for performing tasks on the vehicle are able to consult the operating manual at all times.

The operating manual must be kept in the glove compartment in the driver's cabin of the towing vehicle at all times.

1.1 Copyright

This operating manual is classified as in accordance with the law on unfair competition.

All rights reserved by
SAF-HOLLAND GmbH
Hauptstraße 26
D-63856 Bessenbach

This operating manual contains text and drawings that without the express permission of the manufacturer cannot be either fully or partly

- duplicated,
- distributed or
- in any other way disclosed.

Any breach or infringement will result in liability for damages.

Table of Contents

1 Product data	4
1.1 Product description	4
1.2 Product identification	4
1.3 Type designation	6
2 Ordering spare parts	11
3 General information	11
3.1 Liability	11
3.2 Warranty and general terms and conditions of business	12
3.3 Environmental protection	12
4 Safety	12
4.1 Target group	12
4.2 Proper use	13
4.3 Improper use	13
4.4 Safety instructions and symbols used	13
4.5 Marking used for sections of text	14
4.6 General safety instructions	14
5 Installation	16
5.1 General instructions for installation	16
5.2 D Value/fifth wheel kingpin	17
5.3 Welding the flange	19
5.4 Installation of the fifth wheel kingpin	21
5.5 Screw home the fifth wheel kingpin	23
6 Implementation	23
7 Inspection	24
7.1 General test instructions	24
7.2 Before each journey	25
7.3 Test schedule	25
7.4 Wear check	26
7.5 Lubricate	28
8 Maintenance	29
8.1 General maintenance instructions	29
8.2 Torques	29

1 Product data

1.1 Product description

The fifth wheel kingpin consists of:

- Pin
- Flange
- Screws

is the connecting shaft between the fifth wheel installed on the tractor and that installed on the articulated trailer (trailer). The flange is welded to the bolster plate. The kingpins comply with the applicable standards in terms of their dimensions beneath the bolster plate.

1.2 Product identification

Pin

Please have the exact part number of the product ready when ordering spare parts.

The details of the pin are engraved on the top and bottom –Arrow–, Fig. 1. The “D-value” is given in kilonewton .

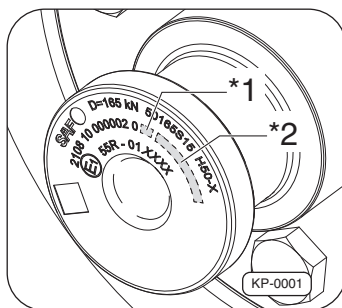


Fig. 1 · Pin example 50S15

Pin details

Technical designation	Value/detail
Manufacturer/brand	SAF
permitted D-value:	D = 165 kN
Design:	50165S15
Class:	H50–X
Part number:	2108 10 000002 0
Revision:	* 1

Technical designation	Value/detail
Manufacturing site and serial number:	*2
Approval number:	E1 55R – 01 XXXX
Data-Matrix-Code □:	contains documentation and manufacturing data, which are centrally stored at SAF-HOLLAND

Flange

Please have the exact part number of the product ready when ordering spare parts.

The details of the flange are engraved on the inside –Arrow–, Fig. 2. The “D-value” is given in kilonewton .

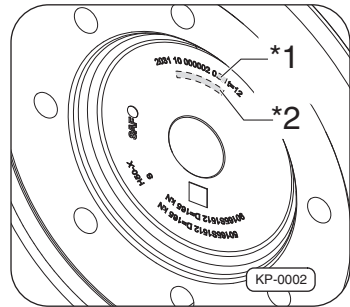


Fig. 2 · Flange example 50S15 or 90S15

Flange details

Technical designation	Value/detail
Manufacturer/brand	SAF
permitted D-value:	D = 165 kN
Design:	50165S1512 and 90165S1512
Class:	H50–X or S
Part number:	2031 10 0000002 0
Revision:	*1
Manufacturing site and serial number:	*2
Trailer bolster plate thickness:	t = 12
Data-Matrix-Code □:	contains documentation and manufacturing data, which are centrally stored at SAF-HOLLAND

1.3 Type designation

marking

Following example is a description of the type marking Fig. 3. The letters are marked with "X" and the numbers are marked with "0".

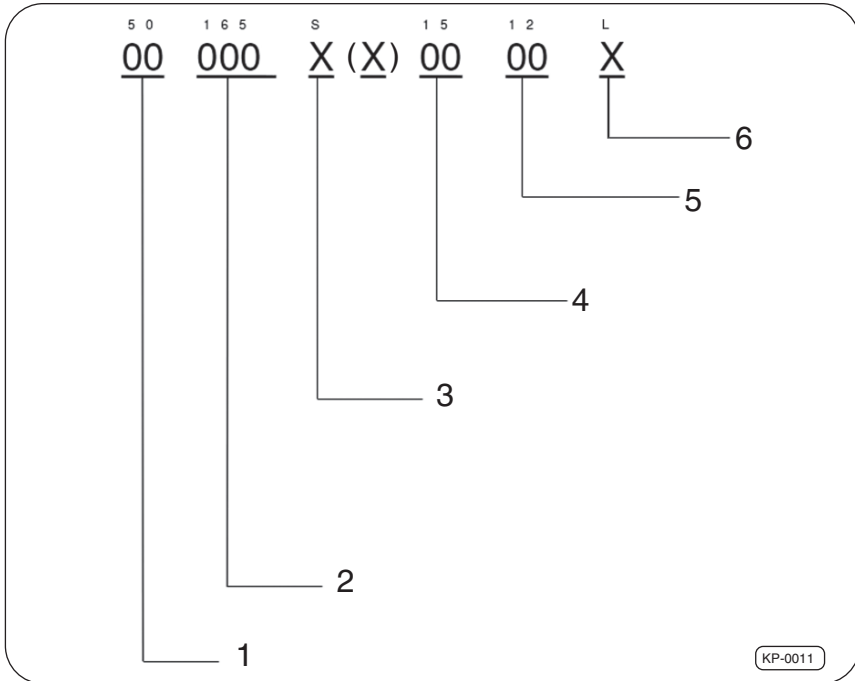


Fig. 3 · Explanation of the marking

1 Size:

- 50 = 2 inches
- 90 = 3.5 inches

2 D-value:

- 165 = 165 kN
- 320 = 320 kN



Note:

The D-value was not considered for the type approval.

3 Fastenings:

- S = with screws

- M = with nuts
- 4 **Circle diameter of part:**
- 15 = 150 mm
 - 18 = 180 mm
- 5 **Semi-trailer bolster plate thickness:**
- 06 = 6 mm
 - 08 = 8 mm
 - 10 = 10 mm
 - 12 = 12 mm
 - 16 = 16 mm
- 6 **Marking of special types:**
- L = steering



Note:

The thickness of the semi-trailer bolster plate is not considered for the type approval.

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Type overview

Type 50S15

Type 50S15				Installation with flange design			
				+GF+		HOLLAND	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type	D-value in kN	type
50165S1512	12	165	E1 55R-01 2289	162.4	101 109	165	65
50165S1510	10						
50165S1508	8						
50165S1506	6						

The pins of SAF type **50S15** can be installed with the corresponding flange designs of +GF+ and HOLLAND.

Type 50S15L

Type 50S15L				Installation with flange design	
				+GF+	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type
50165S1512L	12	165	E1 55R-01 2422	162.4	101 109
50165S1510L	10				
50165S1508L	8				

The pins of SAF type **50S15L** can be installed with the corresponding flange designs of +GF+.

Type 90S15

Type 90S15				Installation with flange design			
				+GF+		HOLLAND	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type	D-value in kN	type
90165S1512	12	165	E1 55R-01 2371	162.4	101 169	165	67
90165S1510	10						
90165S1508	8						

The pins of SAF type **90S15** can be installed with the corresponding flange designs of +GF+ and HOLLAND.

Type 90S15L

Type 90S15L				Installation with flange design	
				+GF+	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type
90165S1512L	12	165	E1 55R-01 2421	162.4	101 169
90165S1510L	10				
90165S1508L	8				

The pins of SAF type **90S15L** can be installed with the corresponding flange designs of +GF+.

Type 50S18

Type 50S18				Installation with flange design			
				+GF+		HOLLAND	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type	D-value in kN	type
50165S1816	16	165	E1 55R-01 2418	162.4	102 022	165	66

The pins of SAF type **50S18** can be installed with the corresponding flange designs of +GF+ and HOLLAND.

Type 50S18L

Type 50S18L				Installation with flange design	
				+GF+	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type
5016551816L	16	165	E1 55R-01 2428	162.4	102 022

The pins of SAF type **50S185L** can be installed with the corresponding flange designs of +GF+.

Type 90S18

Type 90S18				Installation with flange design			
				+GF+		HOLLAND	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type	D-value in kN	type
90320S1816	16	320	E1 55R-01 2426	320	102 021	200	63

The pins of SAF type **90S18** can be installed with the corresponding flange designs of +GF+ and HOLLAND.

Type 90S18L

Type 90S18L				Installation with flange design	
				+GF+	
Design	Trailer plate thickness in mm	D-value in kN	ECE approval no.	D-value in kN	type
90165S1816L	16	320	E1 55R-01 2425	320	102 021

The pins of SAF type **90S18L** can be installed with the corresponding flange designs of +GF+.

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2 Ordering spare parts

When ordering original spare parts from SAF-HOLLAND, make sure that you pay attention to the assembly groups of the respective product.

Third party parts have a negative effect on the function of the product, have a shorter lifetime and cause risks and hazards which SAF-HOLLAND cannot evaluate. They also increase the testing requirement.

SAF-HOLLAND has a tight service network of partner companies for technical support for SAF-HOLLAND products and supply of parts (see back page or visit us on the internet at www.safholland.com).

For further instructions on identifying spare parts, refer to the "Aftermarket" section of our homepage www.safholland.com.

Updates are published as necessary on the internet at www.safholland.com.

3 General information

3.1 Liability

SAF-HOLLAND's "General Terms and Conditions" apply.

SAF-HOLLAND does not accept any liability claims for personal injury or material damage which are caused by one or more of the following:

- Improper use of the product, Page 13
- disregarding the operating manual or the safety instructions contained therein, Page 14
- structural changes to the product not carried out by the company,
- improper installation of the product subject to wear, Page 16,
- maintenance work carried out incorrectly or too late Page 25,
- the use of any spare parts other than original SAF-HOLLAND parts Page 11,
- the use of damaged parts,
- disasters due to external influences or force majeure.

3.2 Warranty and general terms and conditions of business

Refer to the "Sales" section of our home page www.safholland.com for information on our current warranties and general terms and conditions.

3.3 Environmental protection

All components and consumables used for maintenance, care and repair must be disposed of in an environmentally friendly manner.

Recyclable components must be cleaned of oil and lubricants and recycled. When doing so, you must adhere to the disposal instructions for the respective consumables and the valid national and regional regulations.

4 Safety

4.1 Target group

The **Inspection** chapter in the owner's manual is restricted exclusively to use by the owner and personnel authorised and trained by the owner.

The user must ensure that the personnel authorised by him receive regular instruction on the content of the owner's manual and in particular the safety instructions it contains.

The chapter on **Installation** and **Implementation** is restricted exclusively to use by the original equipment manufacturer (OEM) and personnel authorised and trained by the OEM.

The **Maintenance** chapter is restricted exclusively to use by authorised workshops and appropriately trained personnel using the proper tools and safety procedures.

4.2 Proper use

The product has been constructed using state-of-the-art technology and in accordance with the recognised rules of technical safety. However, its use may result in hazards for the operator or third parties or damage to the device or other objects of material value.

Proper use also includes:

- Adherence to the owner's manual and implementation of the working steps stipulated in the owner's manual,
- Adherence to the performance limits Fig. 1.2 and of the product,
- Adherence to all installation specifications Page 16,
- Adherence to all maintenance specifications Page 29,
- the use of the listed consumables Page 28 and disposing of them in an environmentally friendly way Page 12.

Operationally safe functioning can only be guaranteed if all the instructions, setting and performance limits for the product are adhered to.

4.3 Improper use

- The use with non-standard or damaged fifth wheel kingpins e.g. bent, incorrect size or dimensions, fitted on bent trailer bolster plates,
- The attachment of lifting devices,
- Transport of loads in excess of the rated capacity or D-value,
- Use of a tipping device with a kinked tractor,
- Applications other than those recommended.

4.4 Safety instructions and symbols used

The following symbols are used to denote particularly important information and sections of the text. Make sure that they are always read and adhered to before working with the product.



Danger!

This safety instruction with the exclamation mark warns of a possible safety risk or serious and fatal injuries.

**Careful!**

This safety instruction with the exclamation mark warns of possible damage to the product.

**Note:**

Marking for special user tips and other particularly useful and important information for efficient work and economical use.

4.5 Marking used for sections of text

- Marking for instructions for actions and information in safety instructions
- 1., 2., 3., ... Marking used for working steps

4.6 General safety instructions

It is imperative that you adhere to the following safety instructions in order to maintain the operational safety and traffic safety of your SAF-HOLLAND fifth wheel kingpin:

**Danger!**

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

Operation

- The articulated vehicle must be parked in a straight line with the trailer during tipping operations.
- No arbitrary modifications may be made to the fifth wheel kingpin – this also applies to welding work - cancellation of type approval.
- All planned modifications must be approved by SAF-HOLLAND in writing before being carried out.

General safety instructions

- The fifth wheel kingpin must only be used for the Page 13intended purposes.



Danger!

- All instructions in the chapter Liability Page 11 must be followed.
- The fifth wheel kingpin must only be used in a flawless and functional condition.
- The device must be checked regularly, at least 2x yearly by qualified or authorised trained personnel for its functionality.
- The required personal protective equipment and clothing for operating, maintenance and repair staff must be available and must be used.
- The complete owner's manual must be available in legible condition and at the location of use of the system at all times.
- The fifth wheel kingpin must only be inspected by a sufficiently qualified and authorised trained personnel and repaired in a qualified workshop.
- The fifth wheel kingpin and the treated area of the flange are not to be painted over
- The personnel concerned must be regularly instructed in all relevant issues of occupational safety and environmental protection from this owner's manual, in particular the safety instructions that it contains.
- When handling the fifth wheel kingpin, the relevant safety regulations of the respective country apply (e.g. Berufsgenossenschaft für Fahrzeughaltung [Professional Association for Vehicle Owners]).



Note:

Have information available at all times: This owner's manual must be kept in the vehicle.

It must be ensured that all personnel with responsibility for performing tasks on the vehicle are able to consult the owner's manual at all times. In addition to the owner's manual, operating instructions in terms of the German Occupational Safety and Health Act and the German Work Equipment Ordinance must also be made available.

5 Installation

5.1 General instructions for installation



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

- All safety instructions must always be followed Page 14.
- Fifth wheel kingpins are components that are subject to approval. Damaged, deformed or repaired (e.g. welded) individual parts no longer correspond to the necessary type approval and must no longer be used. Furthermore, modifications put traffic safety in danger. When replacing parts, we recommend the use of genuine spare parts from SAF HOLLAND GmbH. The use of non-original parts voids our product warranty.
- The bolster plate must be flat and must not have either welded seams or sharp edges. Uneven bolster plates cause an unstable running of the articulated vehicle, a wavering of the trailer and a significant wear of the fifth wheel plate, on the lock and on the fifth wheel kingpin.
- The fifth wheel should be completely overlaid by the bolster plate in each position. We recommend that the front bolster plates, i.e. on the drive side, be tilted upwards or strongly tapered.
- The fifth wheel kingpins correspond to the applicable standards, which according to the kingpin in mounted condition, must protrude from the bolster plate by a tolerated length. Before installation, the flatness as well as the thickness of the bolster plate must therefore be checked.
- It must be ensured that the bolster plate as well as the fifth wheel kingpin mounting be correspondingly braced for the load and the respective D-value Page 17.
- The installation must be performed by articulated vehicle manufacturers or authorised workshops and by appropriately trained personnel.





Danger!

- Before installing the fifth wheel kingpin, all accompanying parts and the kingpin itself must be checked for damage.
- All tightening torques must always be followed Page 29.
- Observe the legal clauses and approved technical safety rules for the installation of fifth wheel kingpins in the respective country of operation.



Note:

- National rules of approval apply for the construction of the fifth wheel kingpin.
- In Germany, the mounting of fifth wheel kingpins requires registration (§19 - 21 of the Road Traffic Registration Regulation [StVZO]).
- Furthermore, the requirements of §13 FZV (German Vehicle Registration Ordinance) regarding data in the vehicle papers referring to the permitted trailer load must be fulfilled.

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5.2 D Value/fifth wheel kingpin



Danger!

Risk of serious accidents due to the loss of traffic and operational safety, which may lead to serious or fatal injuries!

- For safe operation, the calculated D-value must not exceed the specified D-value or maximum vertical load of the fifth wheel.
- For operation on construction sites or uneven highways, do not use the full D-value or fifth wheel vertical load. Higher forces may exist.
- In order to be able reach the load limits of the maximum D-value, the installation must be carried out according to the SAF-HOLLAND installation instructions.

The specific value for the capacity of each fifth wheel kingpin is the D-value that can be read on the bottom of the kingpin Fig. 1. The weight of a vehicle alone is no equivalent for the forces that occur in the coupling devices. First, the sum of the influencing factors or their relation determines the force that acts upon the coupling device. This strength (called shaft strength or D-value for short) is connected to the fifth wheel vertical load, the weight of the fifth wheel tractor and the weight of the semi-trailer and will also be disclosed in the type testing.

Calculation according to ECE-R55 chapter 2.11.1

The D-value can be calculated using the following formula Fig. 4.

$$D = g * \frac{0,6 * T * R}{T + R - U} \text{ [kN]}$$

$$T = \frac{D (R - U)}{(0,6 * g * R) - D} \text{ [kN]}$$

$$R = \frac{D (T - U)}{(0,6 * g * T) - D} \text{ [kN]}$$

KP-0007

Fig. 4 · D-value calculation formula

D-value calculation formula

Formula symbol, Fig. 4	Definition of terms
D	D-value in kN
g	Gravity; g = 9.81 m/s ²
T	Maximum permissible laden weight of the tractor in t
R	Permitted total weight of the articulated trailer in t
U	Permitted fifth wheel vertical load in t
t	Ton = 1000 kg

The permitted load data for products from SAF-HOLLAND are given in the engraved product information Page 4 or can be found in the applicable type approvals or on our home page www.safholland.com. They apply to the operation on sealed, tarred roads and road conditions that are customary in West Europe. In the case of operational conditions which

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differ from these, or for OFF ROAD use, please consult customer services beforehand. When using several coupling devices and components, the one with the lowest D-value should be observed.

Calculation example

The fifth wheel kingpin should be mounted on an articulated trailer with a permitted total weight of 31 t, which is pulled by a tractor with a permitted total weight of 21 t. The fifth wheel vertical load has a weight of 14 t.

Sought: D-value:

The calculated D-value is 100.8 kN. The fifth wheel kingpin to be used must therefore have a D-value of at least 100.8 kN.

$$D = 9,81 \times \frac{0,6 \times 21 \times 31}{21 + 31 - 14} \text{ [kN]}$$

$$= 100,8 \text{ kN}$$

KP-0008

Fig. 5 · D-value calculation example

5.3 Welding the flange



Careful!

- **The welding work must only be carried out by authorised trained personnel.**
- **The fifth wheel kingpins must be installed flat and in the centre, the angled seat must also be checked.**
- **The pins must be protected against welding splatter.**

Welding procedure

When welding the mounting flange, the following welding procedures and weld materials are permitted:

- Welding procedure
 - MAG C (135)
- Protective gas
 - M21 or 92%Ar + 8% CO²
- Weld material
 - according to EN ISO 14341: 2008

- Welding wire
 - EMK 8 from Böhler
 - Normag 3 from Thyssen
 - Carbofil 1 from Oerlikon
 or equivalent permitted brands from TÜV.

Welding seam quality

The required welding seam quality must comply with DIN EN ISO 5817-B.

Welding seam thickness

The thickness of the welding seam depends on the combination of plate thicknesses of the trailer and corresponding mounting flange.

Weld the flange –Item 1– with trailer bolster plate –Item 2– according to DIN EN ISO 5817-B Fig. 6.

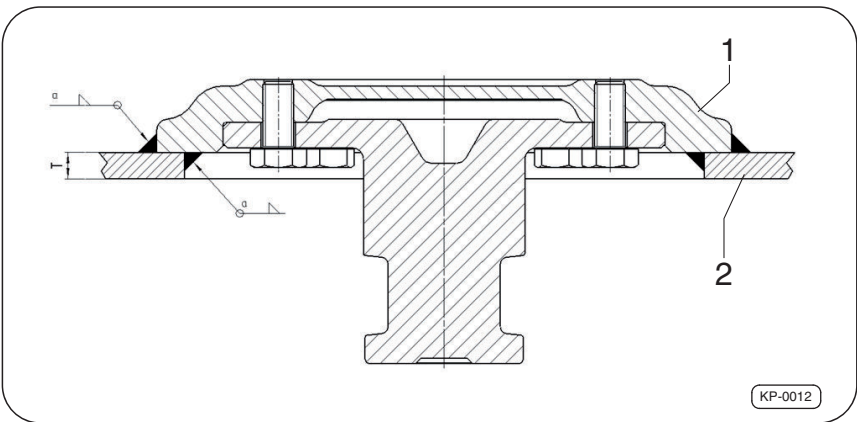


Fig. 6 · Welding the flange

Welding seam thickness for bolster plate

Trailer bolster plate thickness T in mm	Welding seam thickness "a" in mm
6	4
8	5
10	7
12	8
16	8

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5.4 Installation of the fifth wheel kingpin

Mounting overview

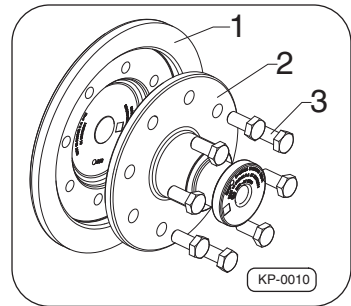


Fig. 7 · Fifth wheel kingpin mounting overview

Mounting overview

Fig. 7, Pos	Designation
-1-	Flange
-2-	Pin
-3-	Screws

Mounting requirements



Careful!

- The mounting is done according to the vehicle manufacturer's guidelines.
- For the assembly of the fifth wheel kingpin, original screws from SAF-HOLLAND must be used.
- For reasons of strength, we recommend that you use a plate thickness of 12 mm for 2" and 16 mm for 3.5" fifth wheel kingpins. If lesser plate thicknesses are used, the bracing of the fifth wheel kingpin must be constructed correspondingly. Recommended material of the trailer bolster plate S355J2.

Procedures

- 1 Test resilience of the fifth wheel kingpin Page 17.
- 2 Determine trailer bolster plate thickness and welding seam thickness Page 19.
- 3 Insert the fifth wheel kingpin flat and in the centre, thereby checking the angled seat.
- 4 Weld the flange using a permitted welding procedure and a corresponding weld material. Protect the pin against welding splatter.

Installation proposal for fifth wheel kingpin

- Align fifth wheel kingpin:
 - concentric to the bore in the bolster plate
 - Line of force –Item 1– central between two fastening screws (22.5°) Fig. 8.

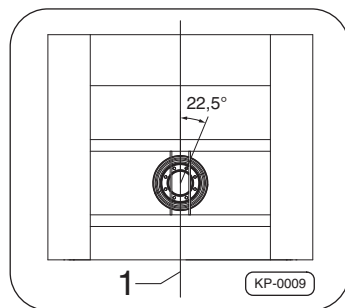


Fig. 8 · Installation proposal for fifth wheel kingpin

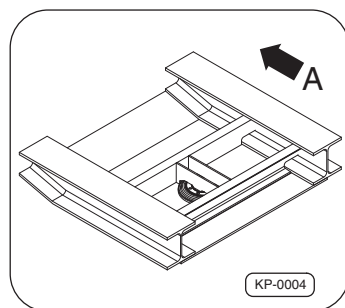


Fig. 9 · Example for installation position in direction of travel

5.5 Screw home the fifth wheel kingpin



Danger!

- **Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!**
- **After disassembly and on assembling again, all old screws must always be replaced with new ORIGINAL screws of SAF-HOLLAND.**

- 1 Install fifth wheel kingpin Page 21.
- 2 Fit fifth wheel kingpin with screws onto the mounting flange and tighten according to the tightening torques Page 29.

6 Implementation



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

The fifth wheel kingpin must be mounted properly onto the vehicle Page 21.



Careful!

Risk of damage to the fifth wheel kingpin!

Lubricate the fifth wheel kingpin before commissioning.

1. Check the fifth wheel kingpin for damage Page 25.
2. Check the fifth wheel kingpin for proper mounting Page 16.
3. Lubricate the fifth wheel kingpin according to the manufacturer's information Page 28.
4. Thoroughly clean the bolster plates of the semi-trailer and check for damage Page 28.

5. If necessary remove sharp edges from the front edge of the semi-trailer bolster plate and in the contact to the fifth wheel and ensure that there is a chamfer on the front edge.
6. Apply a thin layer of grease to the bolster plate of the semi-trailer according to the manufacturer's information, in order to prevent corrosion Page 28.

7 Inspection

7.1 General test instructions



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

- Maintenance tasks must only be carried out by authorised specialist workshops and by staff with the appropriate training.
- All components which are not in a serviceable condition must be replaced.
- Screws must only be used once and must always be replaced by new original SAF-HOLLAND screws.
- The general safety inspection must be performed as per legal regulations Page 28.
- Daily inspection of the vehicle for traffic safety before starting the journey is part of the duty of the driver Page 28.
- SAF-HOLLAND recommends that you perform the inspections and inspection tasks described in the "Inspection" chapter. In case of repairs you must always follow the SAF-HOLLAND repair instructions and directions.

7.2 Before each journey

1. General visual inspection of the fifth wheel kingpins and their receiving construction for fixation, wear, cracks and damage.
2. Perform tug test: Set the semi-trailer brake and drive the fifth wheel tractor away in a low gear – the semi-trailer must not disengage.

7.3 Test schedule



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

- Repair work must only be carried out by authorised specialist workshops and by staff with the appropriate training.
- In the case of vehicles with extreme operating conditions, the inspection intervals must be reduced.



Note:

The fifth wheel kingpin and its holding structure must be checked, according to the conditions of use, at the latest after the inspection interval specified below.

Inspection intervals

	before each usage	every 6 months or every 50,000 km
General safety inspection as per legal regulations.		
Visual inspection		
Check the fifth wheel kingpin and holding structure for deformation and tight fastening.	X	-
Check the fifth wheel kingpin and holding structure for wear, damage and cracks.	-	X
Visual inspection of all parts for damage.	X	-
Functional test		
Check wear of the fifth wheel kingpin using limit gauge Page 26.	-	X
Lubricate		
Lubricate the fifth wheel kingpin Page 28. First time on implementation and after measuring the wear every time.	X	-

7.4 Wear check



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

- Park the articulated vehicle on firm ground.
- Secure the articulated vehicle so that it does not roll away.





Danger!

- The fifth wheel kingpin must be checked for deformation and tight fastening!
- Once the wear limits have been reached the respective parts must be replaced immediately by an authorised specialist workshop and by personnel with the appropriate training.

The fifth wheel lock and the fifth wheel kingpin are subject to a certain wear during operation.

If the limit values below are not reached, the pin must be replaced by an original SAF-HOLLAND spare part.

For wear check on the fifth wheel kingpin, the limit gauges ¹⁾ are recommended.

Fifth wheel kingpin

- 1 Inspect the wear at the circumference of the fifth wheel kingpin using the two zones of the limit gauges by SAF-HOLLAND. Fig. 10
- 2 The limit gauge must not slide over the fifth wheel kingpin with its jaw. If the limit gauge slides over the fifth wheel kingpin, it must be replaced immediately Page 21.
- 3 The height of the fifth wheel kingpin in –Zone A–, Fig. 11 for 2", must be between min. 82.5 mm and max. 84 mm and for 3.5" between min. 72 mm and max. 74 mm as of the lower edge of the trailer. If the dimensions do not match, the fifth wheel kingpin must be replaced immediately Page 21.

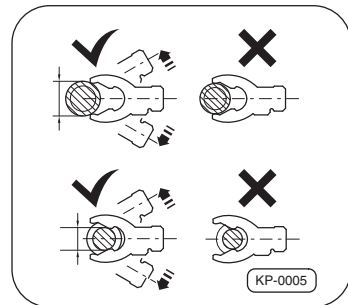


Fig. 10 · Limit gauge wear check

¹⁾ SAF-HOLLAND order number 659 920 032 for 2" and 659 920 033 for 3.5"

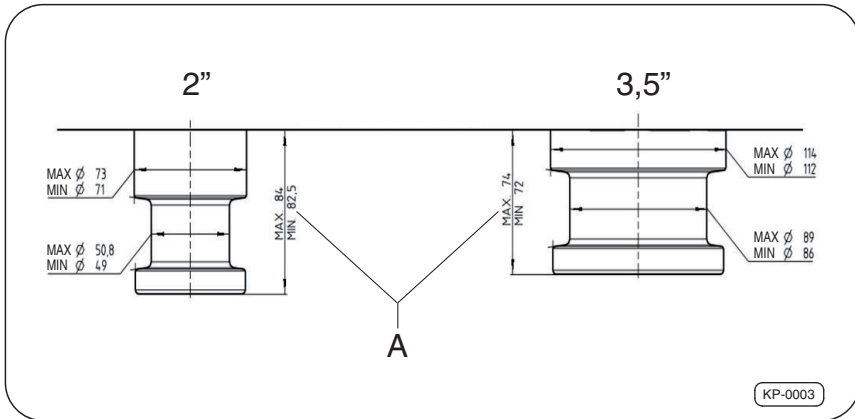


Fig. 11 · Pin wear check

7.5 Lubricate



Careful!

Damage to semi-trailer and fifth wheel!

- Only use the stipulated lubricant.
- Only lubricate the stipulated lubricating points.

Fifth wheel kingpin lubrication

- The fifth wheel kingpin must be lubricated well according to the test schedule Page 25 using long-lasting high-pressure grease with molybdenum or graphite additive.
- **The old grease must be removed** before lubricating again.
- The lubrication intervals must be adapted to the respective operating conditions and when using other lubricants, so that short or long intervals are also possible.



Note:

Ample lubrication of the fifth wheel kingpin and fifth wheel is critical for the service life of these safety elements.

8 Maintenance

8.1 General maintenance instructions



Danger!

Risk of serious traffic accidents due to the loss of traffic safety and operational safety, which may lead to serious or fatal injuries!

- All maintenance work must occur exclusively in authorised trained workshops and be carried out by the correspondingly trained personnel.
- Latest after 50000 km or after 6 months from commissioning the trailer, the fifth wheel kingpin and its holding structure must be inspected Page 25.
- All components which are not in a serviceable condition must be replaced.
- The general safety inspection must be performed as per legal regulations Page 28.
- Daily inspection of the vehicle for traffic safety before starting the journey is part of the duty of the driver Page 28.

In order to maintain operational and traffic safety, SAF-HOLLAND fifth wheel kingpins require continuous care, inspection and maintenance so that natural wear and faults can be detected in good time.

SAF-HOLLAND recommends that you perform the inspections described in the "Inspection" chapter. In case of repairs you must always follow the SAF-HOLLAND repair instructions and directions.

8.2 Torques



Danger!

Risk of accidents due to loose screw connections!

- Threads must not be oiled or greased.
- Tighten screws with the torque wrench.
- Use only SAF-HOLLAND original screws.

**Danger!**

- Only use screws once.

The fifth wheel kingpin is equipped with a detachable screw connection. This applies to:

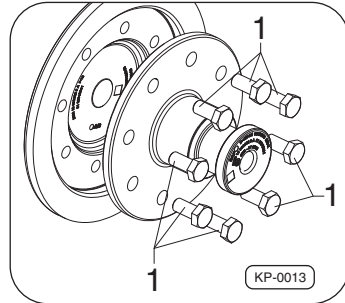


Fig. 12 · Fifth wheel kingpin tightening torque

Tightening torque screw connections

Pin	Type ²⁾	Designation	Tightening torque (Nm)	Width across flats (WAF)
2"	50S15(L)	Hexagon screw (8x)	200 ± 10	22
3.5"	90S15(L)	M14x30 - 10.9, DIN 933		
2"	50S18(L)	Hexagon screw (8x)	530 ± 30	30
3.5"	90S18(L)	M20x50 - 10.9, DIN 933		

²⁾ as described in Page 6.



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