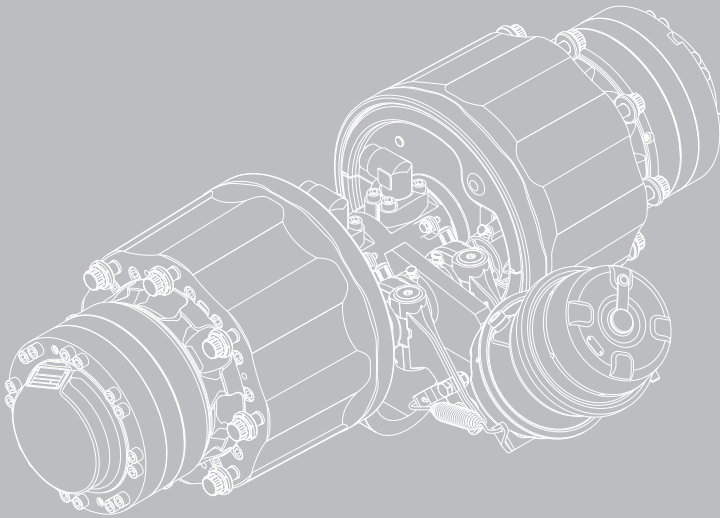


## Owner's Manual

SAF swivel axle ZMP9  
DRIVEN SWIVEL AXLE TYPE ZMP 9-3015



XL-MS11762UM-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.

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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.

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## 1 Product data

### 1.1 Identifying the axle

Please have the exact type designation of the product ready when ordering spare parts.

The 11-digit serial number (serial no.) and the identification number (ident no.) can be found on the type plate.



Fig. 1 · Type plate

### 1.2 Position of the type plate

The type plate-arrow-, Fig. 2 is located at the rear, between the two drum housings.

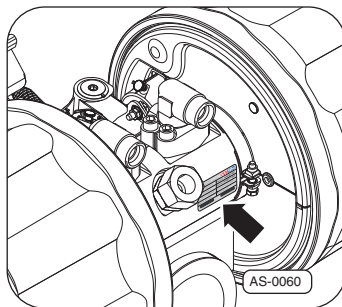


Fig. 2 · Position of the type plate

## 2 Ordering spare parts

When ordering original spare parts from SAF-HOLLAND, make sure that you are aware of the exact identification of the product in question.

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 maintenance 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](http://www.safholland.com)).

For further instructions on identifying spare parts, refer to the "Aftermarket" section of our homepage [www.safholland.com](http://www.safholland.com).

Updates are published as necessary online at [www.safholland.com](http://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:

- non-observance of the proper use Page 5,
- non-observance of the operating manual and safety instructions contained within Page 7,
- unauthorised structural modifications of the product,
- inadequate maintenance of parts subject to wear Page 12,
- The use of any spare parts other than original SAF-HOLLAND Page 4 parts,
- 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](http://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 and care 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 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 operating manual and implementation of the working steps stipulated in the operating manual,
- adherence to the performance limits Fig. 1 of the product,
- adherence to all maintenance and care instructions, as well as additional inspections Page 12,
- the use of the auxiliary and operating materials listed, as well as the environmentally friendly disposal of the abovePage 5.

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

### 4.2 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.

### 4.3 Marking used for sections of text

- Marking for instructions for actions and information in safety instructions

1., 2., 3., ... Marking used for working steps

## 4.4 General safety instructions

**It is imperative to adhere to the following safety instructions for your SAF-HOLLAND axles and suspensions in order to comply with operational safety and traffic safety:**



### **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**

- You must make sure that the brakes do not overheat, e.g. due to continuous use. Overheating on drum brakes can lead to a dangerous reduction of the braking power. On disc brakes, overheating can cause damage to the surrounding components - in particular the wheel bearing. This can be seriously detrimental to safety, e.g. can cause the wheel bearings to fail.

### **Danger**

- In case of overheating, the parking brake must not be applied until the brake has cooled down. The brake discs and brake drums may otherwise become damaged as a result of different levels of tension arising during the cooling process.
- When loading and unloading, the provided support devices must be used in order to prevent damage to the axle.
- Adhere to the trailer manufacturer's recommendations for the OFF ROAD use of the installed axles and suspensions. The SAF-HOLLAND definition OFF ROAD refers to driving on non-tarmacked/concreted stretches, e.g. gravel roads, country and forest roads, on construction sites and in gravel pits.
- The use of SAF-HOLLAND axles and suspensions for OFF ROAD use which are not conceived for this purpose can cause damage and thus compromise traffic safety.



### **Danger!**

#### **Care**

- The wheel contact surfaces and wheel hub, along with the wheel bolt contact surface at the wheel disc must not be painted over again. The contact surfaces must be clean, smooth and free from grease. Non-observance lead to a risk of the wheel fastenings coming loose. Any additional instructions of the wheel manufacturer must also be observed.

#### **Further safety instructions**

- You must only use the wheel rims and tyre sizes specified by the trailer manufacturer. The tyres must always have the stipulated air pressure.

## 5 Operator and driver notice

### 5.1 User

The operating manual for the product is restricted exclusively to use of the product by the user and personnel authorised and instructed by the user.

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.

### 5.2 Before each journey



### **Danger!**

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



### **Note:**

- The maximum permitted axle load (Fig. 1) must not be exceeded and the loaded goods must be positioned with an even distribution.





**Note:**

- For vehicles with an air suspension system, you must ensure that the suspension bags are fully inflated with air. An incomplete supply of air can cause damage to the axles, chassis, frame and attachment and compromise traffic safety.
- The service schedule must be observed and adhered to Page 12.
- All maintenance work must occur exclusively in authorised trained workshops and be carried out by the correspondingly trained personnel.
- The wheel bolts have to be retightened to the proscribed tightening torque, initially after 50 km and then after 150 km.
- 5,000 km after commissioning at the latest, the semi-trailer/trailer, the brake systems on the tractor and the semi-trailer/trailer must be adjusted to each other by way of a tractor/trailer brake synchronisation in order to ensure that the brakes perform evenly and the brake pads wear evenly. Tractor/trailer brake synchronisations should be performed by specialist brake workshops. On vehicles with EBS a balancing inspection has to be carried out.
- All components which are not in a serviceable condition must be replaced.
- The general safety inspection must be performed as per legal regulations.
- Daily inspection of the vehicle for traffic safety before starting the journey is part of the duty of the driver.

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

SAF-HOLLAND recommends that you carry out the inspections and maintenance tasks described in the chapter "Maintenance". In the event of repairs, you must always follow the SAF-HOLLAND repair instructions and directions.

**Note:**

- Under no circumstances undo or open the fittings of the hydraulic components. All maintenance work on hydraulic components must exclusively be carried out in authorised specialist workshops.
- No work of any kind on:
  - motor,
  - hydraulic systems,
  - wheel bearings and
  - brakes.

1. Carry out general visual inspections on the tyres and all parts of the chassis to make sure they are firmly fastened and check for wear, leaks, corrosion and damage.
2. Carry out general visual checks on the brakes to make sure they are firmly fastened and to check for wear, leaks, corrosion and damage.
3. Remove any abrasive dirt before starting the journey in order to prevent damage to the traffic behind.
4. The safety valve –pos. 1–, Fig. 3 on the wheel hub must be kept free of dirt.
5. Check the safety valve –pos. 1–, Fig. 3 on the wheel hub for escaping oil. If there is oil on the rim, then immediately contact an authorised specialist workshop.

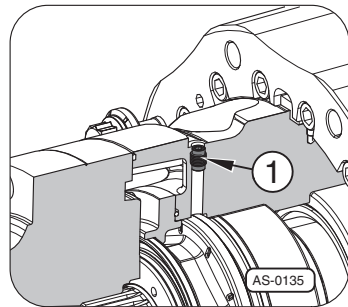


Fig. 3 · Safety valve installation site

### 5.3 Rim mounting

**Danger!**

**In the event of damage to the thread of the wheel bolt, replace wheel bolt and check the thread inside the brake drum.**

Rim mounting is carried out using wheel bolts M18 x 1.5 with pressure plate.

Tightening torques can be found in the chapter **Tightening torques**.

### Rims

For this axle, the following special rims are required:

- Rim 17.5 x 6.00 STK 315 / 8 hole 260 mounting diameter

## 5.4 Torques



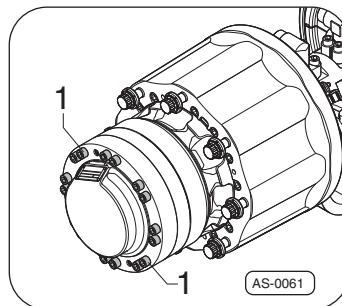
**Danger!**

**Risk of accidents due to loose bolt connections.**



**Note:**

- Threads must not be oiled or greased.
- Tighten bolts with the preset torque wrench.
- When remounting, check threads for damage and replace if necessary



**Fig. 4** · Hydraulic motor bolts

### Tightening torque

Mounting	Bolt connection	Technical measurements	Tightening torque (Nm)	Width across flats (WAF) and Allen wrench
Rim mounting	Double hexagon bolts and wheel nuts with pressure plate (8x)	M18x1.5x 54, 10.9	450	27
Mounting brake drum	Inner hexagon bolts (16x)	M12x1.5x 50, 10.9	130	10
Mounting hydraulic motor	Bolts –pos. 1–, Fig. 4 with inner hexagon (16x)	M12x90, 12.9	145	10

## 5.5 Service schedule

### 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!**



#### Careful!

- Do not loosen or remove hydraulic motor bolts - opening may lead to loss of oil, which will damage the motor.
- Check all tightening torques only!



#### Note:

- Maintenance tasks must only be carried out by authorised specialist workshops and by staff with the appropriate training.





**Note:**

- In the case of vehicles with extreme operating conditions, e.g. OFF ROAD or multiple-shift operation, the maintenance intervals have to be shortened from 12 months/120,000 km to 6 months/60,000 km.
- Under no circumstances undo or open the fittings of the hydraulic components. The hydraulic oil contained within the overall system is held under pressure and improper handling can lead to a complete system breakdown and/or serious injuries.
- In the event of oil escaping from the hydraulic system, immediately seek the assistance of an authorised specialist workshop.
- The current version of the repair instructions for swivel axle ZMP9 must be observed.

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**Service schedule**

**Maintenance on swivel axle ZMP9**

	Initially after first month or 5,000 km	every 6 months or 60,000 km	every 12 months or 120,000 km	every 24 months or 180,000 km
<b>General inspection</b>				
Checking the tightening torques (Page 11) of all wheel nuts/bolts and mounting bolts on the brake drum	X	–	–	–

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	Initially after first month or 5,000 km	every 6 months or 60,000 km	every 12 months or 120,000 km	every 24 months or 180,000 km
Inspect the hub bearings for axial backlash	–	–	X	–
Lubricate and inspect all camshaft bearings and slack adjusters	X	–	X	–
<b>Visual inspection</b>				
Check brake pads for wear according to wear indicators.	–	X	–	–
Check all components of the axle for wear, tears and damage	–	X	–	–
Inspect camshafts and all brake parts for freedom of movement	–	X	–	–
Check slack adjusters for proper operational function and correct adjustment	–	X	–	–
Check the brake system for loss of pressure	–	X	–	–
Check brakes for correct adjustment and brake shoes for effective braking force.	X	X	–	–
Check the tractor and semi-trailer for unified brake pressure. Carry out inspection of the recommended settings for service brake pressure (e.g. observe demand control for valve control)	X	–	–	–
<b>Hydraulic system checks</b>				
Check hydraulic high-pressure connections on the axle beams leaks and escaping oil	X	X	–	–
Check pressure relief valve on the wheel hub for escaping oil	–	X	–	–
Carry out a visual inspection of the connecting surface between the wheel hub and the motor housing	–	X	–	–

	Initially after first month or 5,000 km	every 6 months or 60,000 km	every 12 months or 120,000 km	every 24 months or 180,000 km
Check hydraulic motor bolts for recommended tightening torque, Page 11	X	–	–	–
Carry out general safety inspections as per legal regulations.				



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