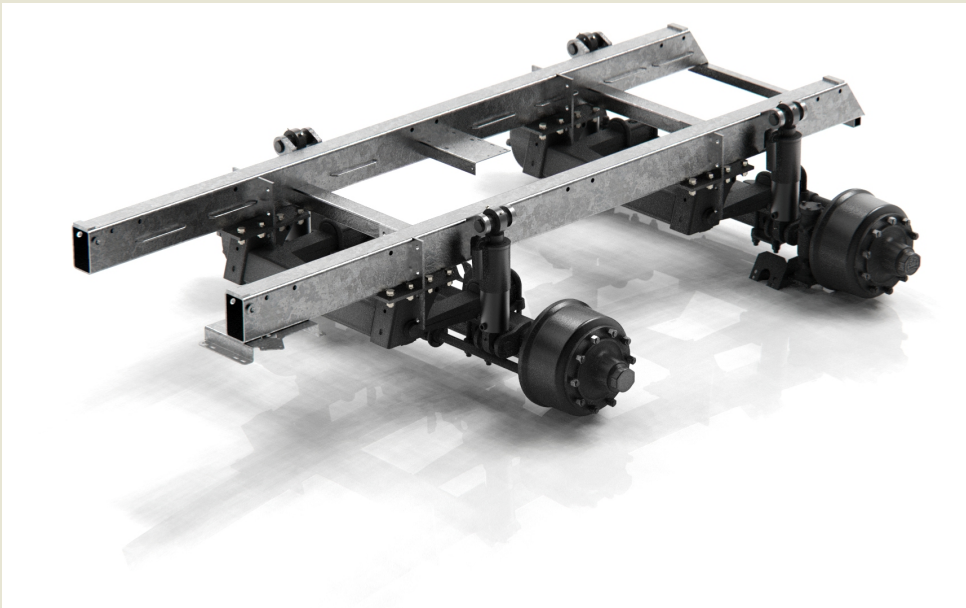


Quick guide

Hydraulic axle suspension



We are Fliegl.



**Read these instructions prior to first-time start-up
and observe them at all times!
Retain for future reference!**

About this quick guide

Dear valued customer,

The aim of this guide is to familiarise you with some of the functions of the hydraulic axle suspension. It contains only basic information to facilitate rapid start-up of the hydraulic axle suspension and does not replace the full, in-depth operating instructions. It is therefore essential that you read all detailed information and warnings in the vehicle operating instructions.

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This quick guide provides you with a brief overview of selected operating procedures and essential functions of the hydraulic axle suspension. However, it does not replace the full, in-depth operating instructions and the important explanations and warnings contained therein.



For more detailed information, refer to the operating instructions of the Fliegl vehicle.

User instructions

This manual provides information about the Function and Operation of the hydraulic axle suspension and ensures long, problem-free operation if it is carefully observed. In case of malfunctions, it can be used to troubleshoot and rectify errors. The purpose of the safety instructions is to prevent personal injury and damage to the hydraulic axle suspension. All operators are required to read these safety instructions and comply with them at all times. Fliegl assumes no liability and honours no warranty for damage and malfunctions resulting from failure to comply with this quick guide.

Presentation of safety instructions



Danger!

Imminent risk that will lead to serious bodily harm or death.



Warning!

Potentially hazardous situation that could lead to serious bodily harm or death.



Caution!

Potentially hazardous situation that could lead to minor bodily harm. Also warns against potential damage to property.



Notice!

Potentially harmful situation in which the product or other property in its vicinity could be damaged.

Important!

For usage instructions and other helpful information.

Duty to inform

This quick guide is to be considered part of the hydraulic axle suspension. If the vehicle is passed on to another party by the customer, the quick guide must also be passed on and the party receiving the vehicle must be instructed regarding the regulations specified above.

Only the procedures described in the quick guide are safe.

- Read and observe the contents of chapter Basic safety instructions before first using the vehicle.
- Before performing any work with the vehicle always read and observe the contents of the relevant sections of the quick guide.
- The quick guide must be stored such that it is always on hand for the vehicle user.



This quick guide provides you with a quick overview of selected procedures and essential functions of your vehicle. However, it does not replace the full operating instructions and the detailed explanations and warnings contained therein.

Basic safety instructions



Failure to observe the safety instructions and warnings can pose a risk to persons, property and the environment. Non-compliance can also result in the loss of any claims for damage compensation on the part of the customer.



Entering or remaining in the vehicle is only permitted when it is stopped and the towing vehicle is turned off.



- Check the hydraulic axle suspension after use every day for obvious damage and defects.
- In the case of damage that affects safety, repair the hydraulic axle suspension immediately.
- In the event of any faults that affect safety, the vehicle must be stopped immediately.
- The vehicle must be secured against reactivation!



- Changes to the hydraulic axle suspension must only be carried out following consultation and with express permission of the manufacturer.
- Use only original replacement parts.

The quick guide forms part of the vehicle and must remain with the vehicle at all times. The vehicle must only be operated following appropriate instruction and in strict compliance with this quick guide. Any use of the vehicle not described in the quick guide can result in serious injury or death and may also lead to vehicle and property damage. Unauthorised changes to the vehicle can have a negative impact on the vehicle properties or impair its correct function. Unauthorised changes will therefore release the manufacturer from any resulting liability. Designated use also includes compliance with the operating and maintenance instructions prescribed by the manufacturer.



Misuse can be dangerous.

Examples of such misuse are:

- Exceeding the permissible working capacity.
- Failure to observe safety stickers on the vehicle and safety information in the quick guide.
- Performing troubleshooting, adjustments, repairs and maintenance contrary to the specifications in the quick guide.
- Unauthorised changes to the vehicle.

Basic safety instructions

Modifications and changes

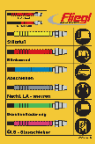

Any unauthorised modifications and changes to the vehicle (such as welding onto bearing parts) will void all liabilities and the manufacturer's warranty. Therefore, do not make any changes or add anything to the vehicle without consulting and receiving written agreement from the manufacturer.

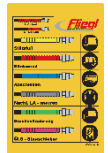
Replacement and wear parts and auxiliary materials

The use of replacement and wear parts or auxiliary materials from third parties can lead to dangers. The manufacturer accepts no liability for damage resulting from the use of these parts. Therefore, use only original parts or parts approved by the manufacturer.

Labelling

There are warning signs on the system to warn of the following residual dangers which cannot be eliminated:

<p>Notice regarding hazard symbols:</p> <ul style="list-style-type: none"> - The hazard symbols must be kept clean and must be clearly visible at all times - Damaged or missing hazard symbols must be replaced - Observe all <i>warnings and safety instructions</i> provided on the vehicle 		<p>Description of the hydraulic connection</p>
		<p>Warning on pressure vessels</p>

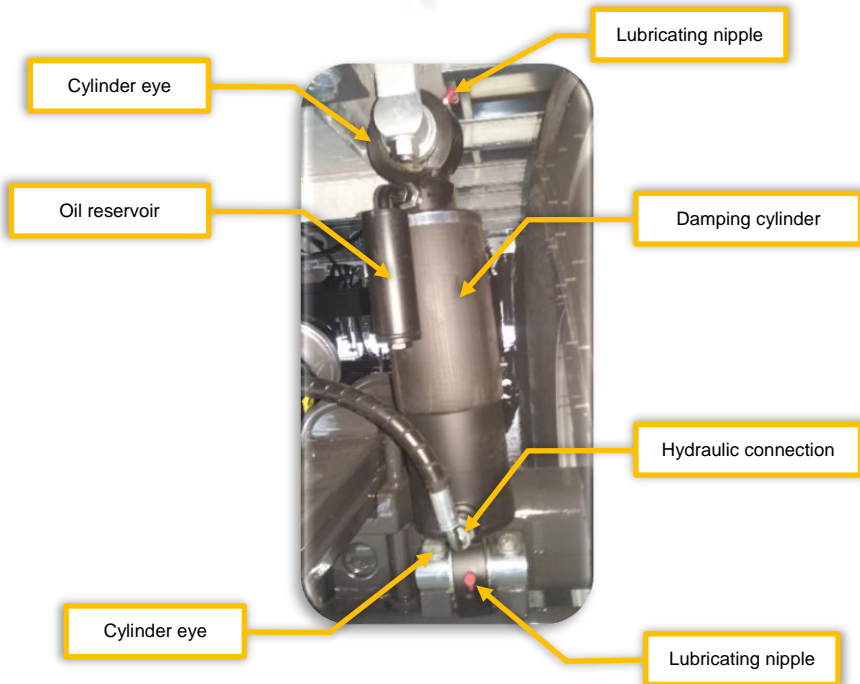


Vorsicht Druckbehälter
Druckentlastung vor Beginn der Demontage
Gas-Vorfülldruck 50 BAR
Füllen nur mit Stickstoff

Caution: pressure vessel
Depressurise before commencing disassembly
Gas precharge pressure: 50 bar
Fill only with nitrogen

Layout of the hydraulic axle suspension

The figure provides an overview of the main components and assemblies:



1. Start-up

1.1 First-time start-up



- Without a correct start-up in accordance with these instructions, the operational safety of the vehicle is not guaranteed. This can lead to accidents resulting in serious injury or death.
- All setting and adjusting tasks must be performed for first-time start-up.
- Before starting work, the operator must familiarise himself with all actuating devices and their function.
- It is too late to do so once work has started.
- Before start-up, instruct persons to leave the hazardous area, for example, around hydraulic equipment.
- There is a risk of injury at crushing and shearing points in the area of the hydraulic cylinder.
- Observe the safety instructions that are affixed to the trailer. An explanation of the individual warning symbols is provided on page 4 of these instructions.
- Also observe the instructions in the relevant sections of this quick guide.

1.2 Check before start-up

The points below will facilitate vehicle start-up. Detailed information is provided in the relevant sections of this quick guide as well as in the operating instructions for the vehicle. Check to ensure that all safety devices are in proper condition and are attached to the vehicle in protective position.

- Ensure that all lines are correctly connected and secured.
- Check the hydraulic system for damage.
- Test the function of the ball valves.



Read carefully. If there is anything you do not understand, contact the manufacturer to exclude the possibility of operating errors.



- Instruct unauthorised persons away from the vehicle.
- Carry out a visual inspection of the entire vehicle and the tools.
- Unlock all devices used for stopping in an emergency.
- The hydraulic connections should always be connected to the same ports on the towing vehicle. The hoses are labelled.
- - The operator is responsible for renewing the labels if they should be lost or become unreadable. Otherwise, the hydraulic hoses may be connected incorrectly to the towing vehicle.

2. Preparing the tractor/trailer combination

Step 1

Couple the trailer to the towing vehicle.
Then park the tractor/trailer combination on a level surface.

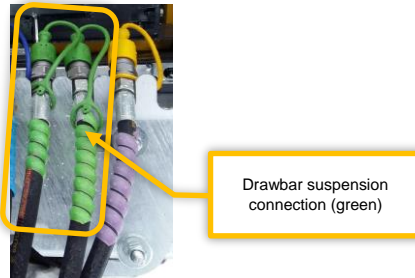
Step 2a

Measure the front and rear of the trailer to ensure that it is horizontal.
If necessary, adjust the trailer via the hydraulic draw gear (drawbar suspension).



Step 2b

To use the hydraulic draw gear (drawbar suspension), you must connect the two hydraulic lines (**GREEN**) to the towing vehicle.
You can then make use of the hydraulic draw gear.
Operation is described in the vehicle operating instructions.



3. Establishing the hydraulic connection



The following steps must be performed to set up and prepare the trailer:

- The trailer has been coupled and the towing vehicle is ready for operation.
- The hydraulic lines have been connected to the towing vehicle in compliance with regulations.

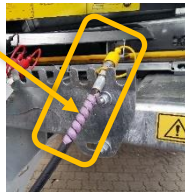
A hydraulic oil supply and control by the towing vehicle are required for all work functions. The number of connections is type- and design-specific.



Step 1

Connect the hydraulic line (**PURPLE**) to the corresponding connection at the rear of the towing vehicle. Verify that the coupling is correctly engaged.

Hydraulic suspension connection (purple)



You must first ensure that the ball valves on the trailer are closed.

Step 2

Fully open the ball valves on the underside of the trailer. The hydraulic system is connected or opened on the trailer. The hydraulic suspension moves to floating position.



For safety reasons, the towing vehicle engine must be switched off!

4. Position of control elements in towing vehicle



For a detailed description of the control elements, refer to the manual for the towing vehicle.



5. Adjusting the suspension



2 persons are required to adjust the height!

Step 1

Person 1:

Position yourself between the axles.
We recommend that you use a yard stick to measure the initial dimension.
Measure the initial height at a suitable fixed point on the trailer.



Person 2:

Take a seat in the towing vehicle. To ensure the safety of **person 1**, verify that the parking brake is applied. Leave the vehicle door open so that you can communicate with **person 1**.



Step 2

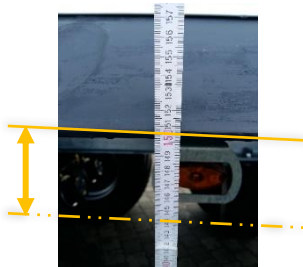
Person 2:

Slowly commence the lifting process. Maintain contact with **person 1**.
Extend the hydraulic cylinders gradually to facilitate the height measurement.



Person 1:

Maintain contact with **person 2** so that you can give them instructions.
You must set a final dimension that is **90 mm** higher than your initial dimension.



Adjusting the suspension

Step 3

After completing the height adjustment, close the ball valves.



For safety reasons, the towing vehicle engine must be switched off!

Step 4

Detach the hydraulic line from the towing vehicle and place it back on the trailer. This line is no longer required to operate the trailer.



General safety and operating instructions

The following section contains some general notes on safety and operation for working with the hydraulic suspension, repeated and summarised together for better clarity:

- The engine of the towing vehicle must be switched off when adjusting the hydraulic suspension.
- Following the adjustment, perform a function check and/or test drive in unladen condition.
- Observe all local safety regulations.
- There is a risk of injury when coupling/uncoupling trailers to/from the towing vehicle.
- Keep children away!
- Before first-time start-up, move all protective devices to the safety position.



The cylinder must never be fully extended or retracted while driving. Otherwise, the suspension function will not work.

General safety instructions for the hydraulic system

1. The hydraulic system is under high pressure.
2. When connecting hydraulic hoses to the tractor hydraulics, ensure that the hydraulics are depressurised on both the tractor and trailer side.
3. When coupling and uncoupling, ensure that the couplings of the hydraulic hoses are/do not become dirty.
4. Check hydraulic hoses and couplings regularly and replace them if they are damaged or old (at least every 6 years).
5. The replacement hoses must meet the requirements of the machine manufacturer.
6. When locating leaks, use suitable aids due to the risk of injury.
7. Never try to close leaks with your finger.
8. Liquids (hydraulic oil) escaping under high pressure can penetrate the skin and cause serious injuries.
9. In case of injuries, consult a physician immediately → risk of infection!
10. Before working on the hydraulic system, depressurise it and switch off the tractor engine.
11. Only specialist workshops are permitted to perform repair work on the hydraulic system.
12. Ensure that the oil is of the required grade.
13. **Caution when draining hot oil → risk of burns!**

Troubleshooting and fault elimination




Special caution when rectifying faults!







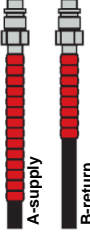
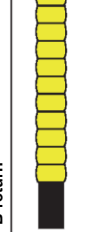
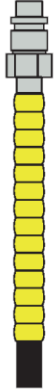


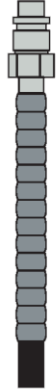
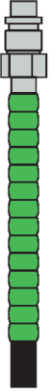
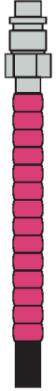
- Consult trained service personnel or
- visit a specialist workshop.
- If necessary, contact the manufacturer's customer service department.

















Fault / error message	Possible cause(s)	Remedy
Cylinder moves too slowly or not at all	Insufficient oil in the hydraulic system Hydraulic coupling connected incorrectly Hydraulic coupling faulty Insufficient oil flow	Check the oil level and top up if necessary Check the connections Check the coupling and replace if necessary Check the tractor hydraulics
Hydraulic cylinders extend but then do not retract	The piston seal in the cylinder is faulty, meaning that the piston and ring face are in direct contact	Check the cylinders individually for leaks and replace the faulty cylinder if necessary
Low lifting force	Insufficient oil pressure	Check the tractor hydraulics



Maintenance, repairs and conversion work on the hydraulic suspension must be performed only when hydraulic operation is switched off and the hydraulic connections are uncoupled. Secure the tractor to prevent accidental start-up and rolling away.



							
							
A-supply	B-return					Drawbar suspension	

							
							
					Hydraulic suspension		



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