

## LONG REACH ARM



# Installation **and** Operation Manual

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**Filled in by seller**

**Arm Typ:**

**Built for excavator type:**

**Arm lenght:**

**Arm Ident.-Nummer:**

**Year of manufacture:**

**Other details / specifications:**

**Date of purchase:**

**Signature / stamp of seller:**

CE

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Thank you for trusting us and investing in the Long Reach arms by Euroholz. Our products have been designed based on the long-lasting experience of our company. Each product has been developed to work efficiently and designed to be reliable.

This operation manual has been enclosed to help our clients safely use the Long Reach arms supplied by Euroholzboth during the installation and when using the equipment.

You are requested to accurately read the content of the manual to make sure that you have improved your understanding of the rules which you must follow when using the machine after installing the Long Reach arm by Euroholz.

EUROHOLZ  
MASCHINEN HANDEL

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# 1. Introduction

## 1.1. Safety

**1.1.1.** Your and other people's safety directly depends on the way in which you use and maintain the equipment. Read and understand the operation manual and other documents corresponding to the safe use of the machine and make sure that you have understood all the information before you start to operate the equipment. Do not ignore the above warnings since doing so may lead to human injuries, deaths or damages of someone's property.

**1.1.2.** Use relevant precautions as used in case of other machines, the safe usage and maintenance of which depend on the personnel's operation. Make yourself accurately familiar with the complete content of the manual chapter devoted to keeping safety and the markings on your equipment. Maintain all safety marks (warning stickers, reflective marks etc.) well or replace them with new ones if lost or destroyed.

**1.1.3.** Euroholz - Maschinen Handel is not able to prevent all hazardous situations which constitute a threat to human life. The warnings listed in this manual and specified on the safety marks on your equipment make in no circumstances a complete list. If a procedure, method, tools or part of the machine is not duly recommended by Euroholz, you must be aware of being liable for that and immediately make sure that it is safe for you and others and that the equipment will not be damaged or become hazardous as a result of that decision.

Dangerous for humans and machines if instruction is not followed!

**1.1.4.** The fundamental safety behaviour rules are summarised in this operation manual chapter. These rules also appear further in the text of the manual and there they are directly related to all other safety and operation rules.

## 1.2. Potential Hazards

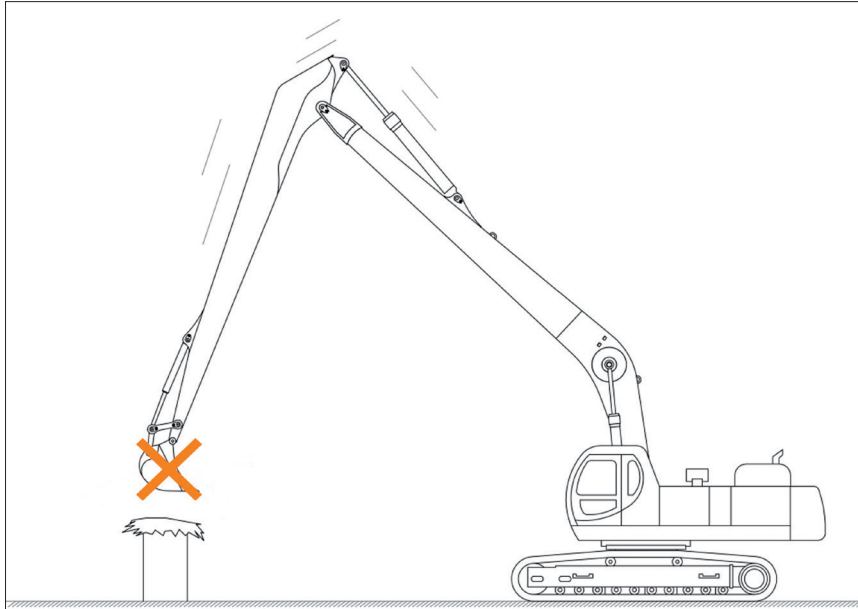
**1.2.1.** Avoiding overloads. The Long Reach arm which is an additional element of the machine may change the lifting capacity of the machine. Avoid overloading the excavator as this might lead to serious damages. The lifting capacity may change depending on whether the machine is on a levelled and stable ground.

**1.2.2.** Improper "lifting" may bring heavy destruction or damage to the machine. The machine should work in the positions recommended for maximum stability (the tips are included in the excavator manual). In case of a counterbalance, follow the manufacturer's recommendations. Use short cords and carry the load only if absolutely necessary.

**1.2.3.** Avoid high voltage lines. Direct contact of the machine with live lines may cause heavy damages to the machine and lead to human injuries or death. Considering the fact that the Long Reach arm has a wider coverage than the standard arm, be particularly careful or totally avoid working nearby high voltage lines.

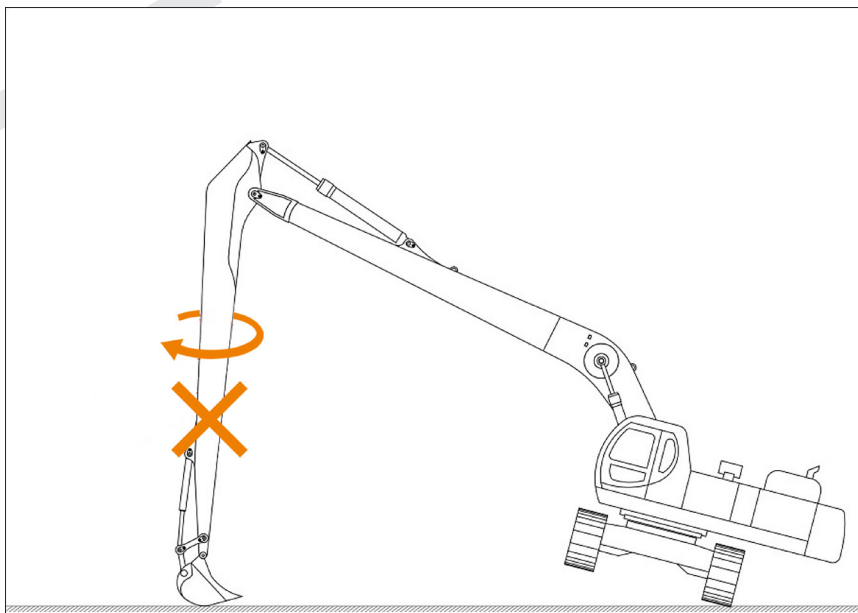
## 1.3. Forbidden Operations

1.3.1. Do not use the bucket for breaking apart or hammering as in case of a hydraulic hammer. Such operations may bring damages to the structure of the Long Reach arm which has not been designed as suitable for this kind of works and should be protected from such situations.



1.3.2. The operation of the machine must not involve using the swinging force of the arm. Moving or sliding loads by means of the swinging force will shorten the service life of the arms or its individual elements.

1.3.3. It is forbidden to lift the excavator above the ground by leaning the arm against the ground. The arm, its structure and its geometry have not been designed for this purpose. Avoid this type of operations in any circumstances.



**1.3.4.** Never use an excavator equipped with the Long Reach arm for carrying out works for which a crane has been designed.

**1.3.5.** Never use vibrating elements such as hammers, all kinds of vibrating machines for crushing rocks etc. as the equipment for the Long Reach arms.

## **1.4. Precautions**

**1.4.1.** Under no circumstances modify the Euroholz products unless you have been authorised by the manufacturer to do so. These products have been designed for specific works and a failure to follow the recommendations may cause human injuries, death or damages to the machine.

**1.4.2.** Lower the arm onto the ground every time before you want to go out of the operator's cabin. If this is impossible, you need to preventively secure the machine and the arm by using supports. To do this, do not use materials which might get crushed under the impact of the load.

**1.4.3.** The hydraulic oil gets warmed up during the operation. Do not let it come in contact with skin as this will cause body burns. Provide yourself with adequate protective clothing and equipment.

**1.4.4.** If your skin comes in contact with any fluid, contact medical aid or a dermatologist since negligence here may lead to gangrene or sensitisation.

**1.4.5.** Provide yourself with proper close fitting protective clothing and safety equipment required at work. All these protective measures should be used to prevent injuries every time when operating or maintaining the machine. The proper equipment should include protective goggles, tough helmet, protective footwear, gloves, ear protections etc.

## 2. Operation

### 2.1. Starting Safely

2.1.1. Carry out an accurate inspection by walking around the machine and checking all of its elements every time before starting the machine.

### 2.2. General Rule for Safe Operation

2.2.1. Make yourself accurately familiar with the performance efficiency of the machine and its individual elements. Do not overload the machine as this may cause serious damages. Be familiar with the load carrying capacity of the machine! Do not guess! Individual elements may change the lifting capacity of the machine.

2.2.2. When the operator lowers the machine for any reason, lower the Long Reach boom on the ground every time.

2.2.3. Be particularly careful to prevent the Long Reach arm from colliding with the objects and units of equipment surrounding it, especially when it operates in reduced visibility or inside buildings. Make yourself familiar with the total height and reach of the arm when in operation, movement and rotation among buildings.

### 2.3. Paying Attention to Manual

2.3.1. Before starting to work with the new machine, it is suggested to make it possible for the operator to get familiar with the equipment within a large open space on a levelled ground which will be free from obstacles such as trees, buildings or other equipment, with people staying outside the space. Test the machine on stable ground and take time to make yourself familiar with the machine and its particular elements.

2.3.2. Each movable part of the machine shows unique and specific performance and requires a different level of sensitivity when being operated - each model of the machine reacts differently to the controller movements.

2.3.3. The time used to learn how to operate the machine will allow the operator to get familiar with how the machine responds to the controller movements before starting to work.

2.3.4. It is very important to reduce the hydraulic oil flow on the arm fold cylinder by at least 30%. The standard oil flow rate in the cylinder has been set on the level existing in a standard arm. The Long Reach arm is geometrically extended, which means that small movements of the arm fold cylinder will be result from a stronger swinging motion. If these recommendations are disregarded, it may be very dangerous to operate the machine and specific jolts may occur or it may damage the Long Reach arm.



## 3. Preventive Operation and Maintenance

### 3.1. Safe Operation Procedure

3.1.1. Inspect the machine every day. Do not work on an improperly maintained equipment or when the machine is damaged since doing so may cause the machine structure to get entirely damaged.

3.1.2. Lower the arm on the ground every time you go out of the cabin. If this is impossible, you need to preventively secure the machine and the arm by using supports.

To do this, do not use materials which might get crushed or bent under the impact of the load. Do not strain the cylinders to keep the Long Reach arm in the upper position. If the controller moves or if the hydraulic pressure suddenly increases, the Long Reach arm may fall down to the ground. Never stay right under the machine which is secured only with the safety brake.

3.1.3. It is recommended to switch off the excavator to prevent its damage while maintaining the equipment.

3.1.4. Never use the machine if it is in bad technical condition. In such case, provide the machine with a board with a warning inscription: "MACHINE OUT OF ORDER - DO NOT WORK ON THE MACHINE".

3.1.5. Before starting to work on the machine, make sure that all indicator lamps have been properly tagged and secured in order to prevent unauthorised persons from being able to start the machine as each operator must get familiar with all the operation principles and be aware of the machine being used by other operators if there are any.

3.1.6. While starting the machine, it is necessary to use the assistance of two persons - the operator who supervises the system of indicators must see the person who is controlling the machine from the outside.

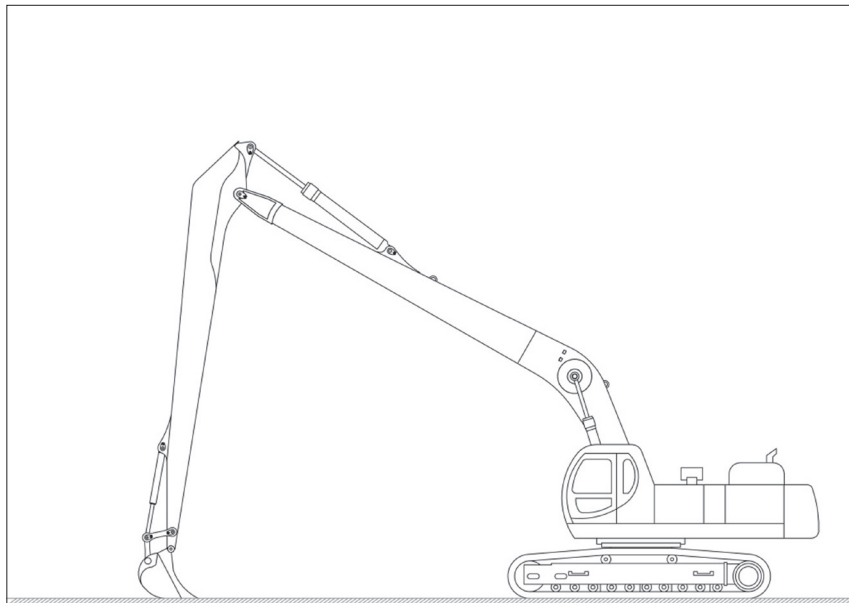
3.1.7. Keep your hands away from the moving parts. It is forbidden to maintain the machine while it is in operation.

3.1.8. Provide yourself with proper close fitting protective clothing and safety equipment required at work. All these protective measures should be used to prevent injuries every time when operating or maintaining the machine. The proper equipment should include protective goggles, tough helmet, protective footwear, gloves, ear protections etc.

3.1.9. Be familiar with the safe operation and maintenance procedures before starting to work. Do not start repairing a defect of the machine if you do not have full and professional relevant knowledge about it.

**Important:** all maintenances, inspections and assemble works should be done by an authorized and qualified personnel who follow to this manual.

## 4. Installation

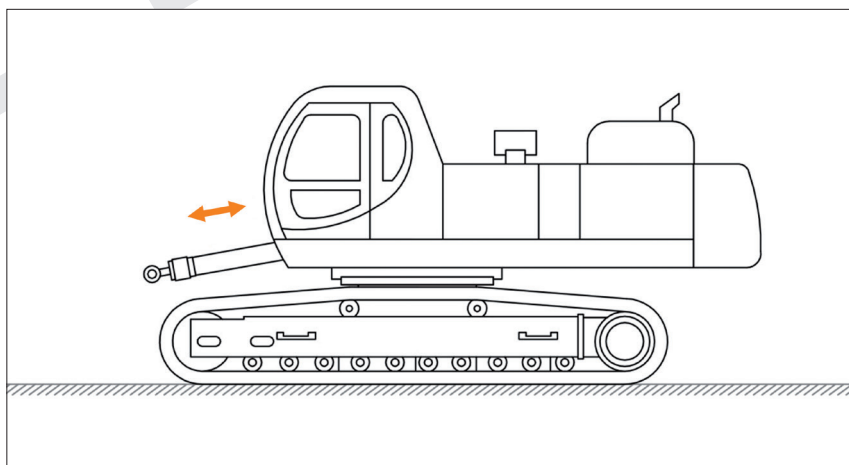


### 4.1. Pre-installation Preparations

4.1.1. It is recommended to visually inspect the Long Reach arm every time before the installation as well as to improve it. You need to do this as a preventive action to check if any element has been damaged during transport or when unloading the equipment.

4.1.2. To install a new arm, first remove the genuine arm from the machine. It is very important to remove these elements safely as recommended by the manufacturer according to the operation manual provided with the machine.

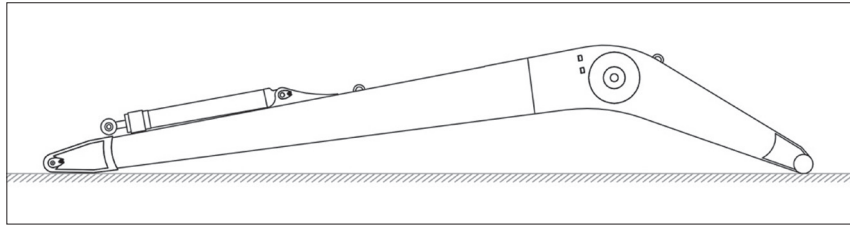
4.1.3. After removing the genuine arm, leave two cylinders raising the arm immediately next to the machine.



4.1.4. Dismantle the arm fold cylinder and 2 pins from the genuine arm. These three elements will be used to install the Long Reach arm.

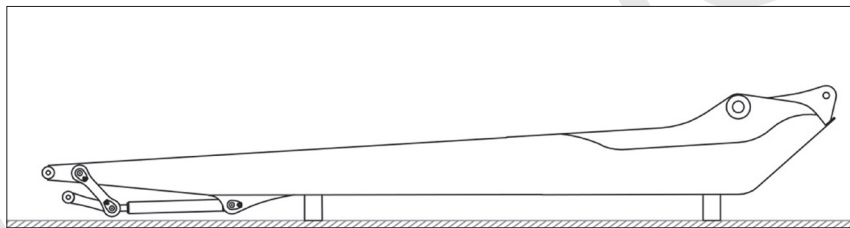
4.1.5. While both cylinders remain unaffected, connect and carefully attach all hydraulic hoses.

4.1.6. Put the arm (boom) in the position as shown on picture below. Check and make sure that the ground is stable. Take all precautions to be sure that the arm will not overturn during the installation works.



4.1.7. Transfer the arm fold cylinder from the standard arm to the Long Reach arm. Check if it has been properly installed. Connect and properly secure the hydraulic hoses.

4.1.8. Put the arm (stihl) in the position as shown on picture below. Check and make sure that the ground is stable. Take all precautions to be sure that the arm will not overturn during the installation works.

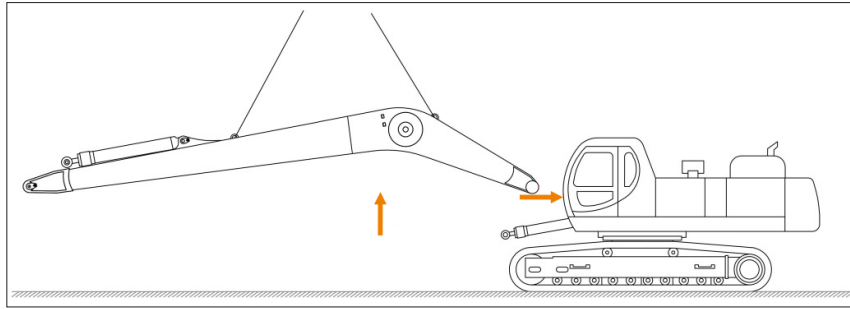


## 4.2. Installation Procedure

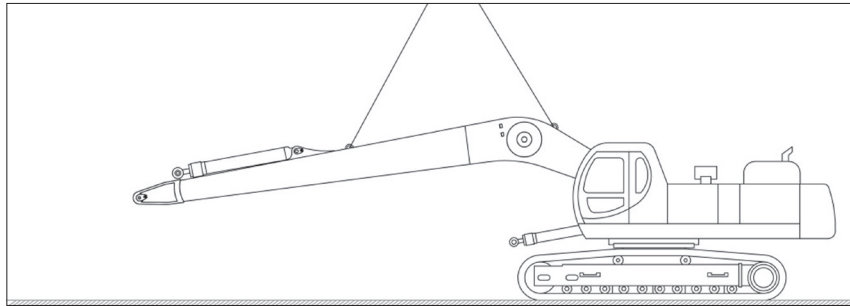
4.2.1. Raise the arm (boom) carefully towards the machine. Align the Long Reach arm installation holes with the installation brackets on the excavator. Look - picture on the next page.

### SAFETY WARNINGS:

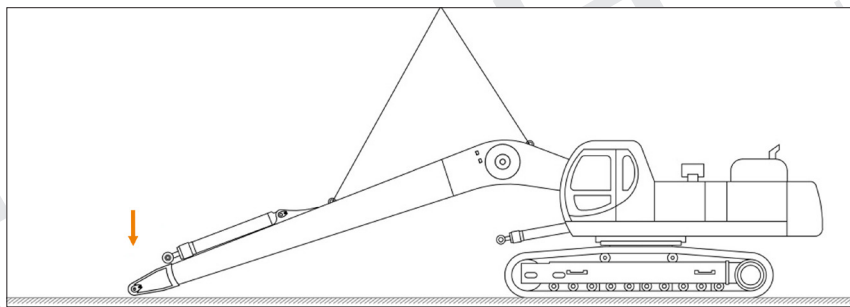
- a) Use only the chains or cables / harnesses which can carry the arm weight.
- b) Attach the chains or cables / harnesses to the installation brackets provided on the top part of the arm.
- c) Never allow anyone to stay directly under the arms when it is being raised.



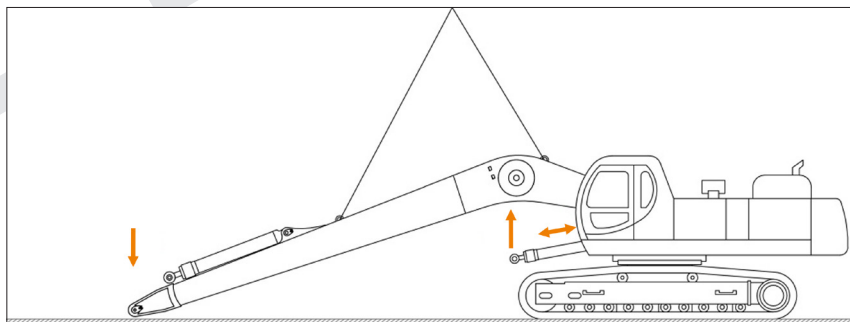
**4.2.2.** Install and secure the boom on the machine by means of the bolt.



**4.2.3.** Lower the arm (boom) until it rests on the ground.



**4.2.4.** Raise and align both cylinders with each other and secure them structurally by means of pin.



**4.2.5.** Connect and safely attach all hydraulic hoses connecting the machine to the Long Reach arm as well as those provided at the end of the arm.

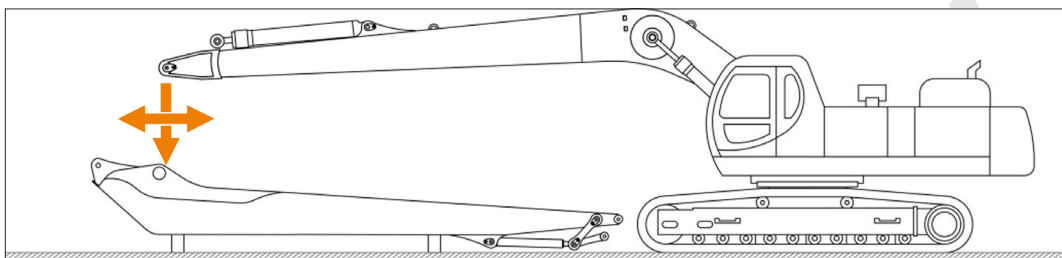
**4.2.6.** Having connected all hydraulic hoses, check the hydraulic system. Run the engine and test the hydraulic system of the arm.

## SAFETY WARNINGS:

- a) Do not remove chains or cables / harnesses which are capable of carrying the arm weight until you are fully satisfied with the performance of the arm hydraulic system.
- b) Do not disconnect the hydraulic hoses provided at the end of the arm which have been supplied with the set. Disconnecting these hoses will cause a failure of the hydraulic system of the arm.
- c) Watch the arm hydraulic system for any oil leakages.

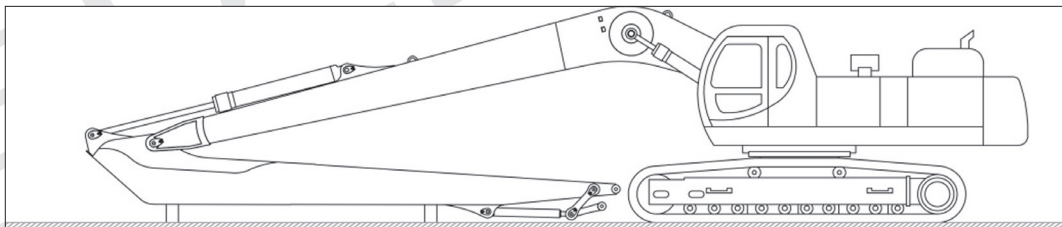
4.2.7. If the hydraulic system works correctly, lower the entire arm onto the ground. Then remove the chains or cables / harnesses supporting the arm at the brackets on the top part of the arm.

4.2.8. If the installation process has been completed according to the manual, the cylinders raising the arm should work properly and easily raise the arm. Then set the arm (stihl) in the position shown on Picture and interconnect the boom and the stihl by means of the supplied pin.

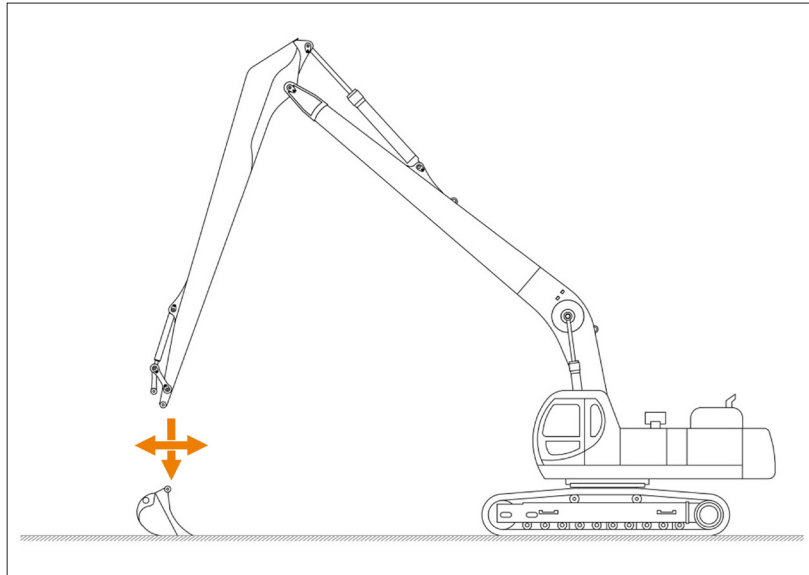


4.2.9. Connect the arm fold cylinder head with the stihl assembly hole by means of the supplied pin.

4.2.10. Connect and safely attach all hydraulic hoses connecting the boom with the stihl.



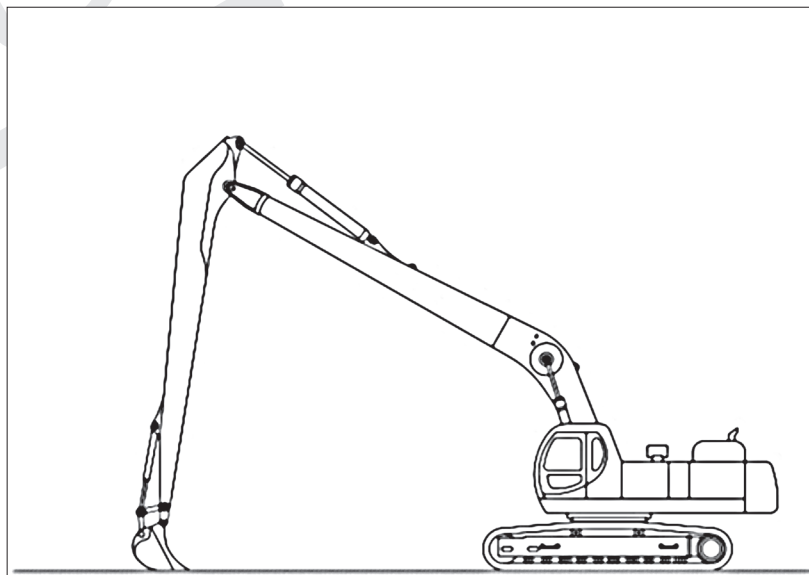
**4.2.11. Install the supplied bucket.**



**4.2.12.** The Long Reach arm has a far longer reach than a standard arm. As a result, it is necessary to reduce the oil flow in the bucket closing cylinder. If you do not reduce the oil flow in the cylinder, this may decrease the level of the bucket (closing / opening) movement precision and it may lead to a damage of the bucket.

**4.2.13.** Carry out a final inspection to check if all bolts, nuts, pins and hydraulic hoses have been properly installed and tightened. After checking the above mentioned items and making sure that everything has been properly installed, you can start testing the complete Long Reach arm installed on the excavator.

**4.2.14.** Before carrying out the final test of the newly configured excavator, equipped with the Long Reach arm, make sure that you have ready and fully understood chapters 1 and 2 of the installation manual.



## 4.3. Final Tuning and Adjustments

**4.3.1.** This is an important step which must be taken to ensure smooth, precise and reliable operation of the excavator equipped with the Long Reach arm. Reduce the flow rate of the arm (boom/ stihl) fold cylinder hydraulic oil at least by 30 %. Make yourself familiar with the manual enclosed with the excavator to carry out this operation in a proper way and in accordance with the excavator manufacturer's recommendations. After reducing the hydraulic oil flow, test the machine to make sure that the arm closing/opening speeds and the bucket closing / opening speed are adjusted so as to make work comfortable. If the movements continue to be too fast and violent, keep on reducing the oil flow until the operation of the Long Reach arm is satisfactory and comfortable.

**4.3.2.** Some Long Reach arms may be equipped with an optional oil flow reduction valve provided on the arm (boom/stihl) fold cylinder hydraulic line (visible on Picture).

This valve allows you to adjust the hydraulic oil flow when the arm (boom/stihl) fold cylinder is fully extended (the arm "folds" with the bucket oriented towards the operator). To change amount of oil flowing into the cylinder and thus to significantly modify the stihl movement speed, rotate the valve clockwise or counter-clockwise.

**4.3.3.** In case of the arms supplied without the optional hydraulic oil flow control valve, you need to adjust the "rollers" on the machine hydraulic pump to reduce the amount of oil flowing to the arm fold cylinder, which has a significant effect on the stihl movement speed.