



ATiB MATERIAL
HANDLING

INSTRUCTIONS MANUAL FOR USE

SIDESHIFT TYPE 209 | 109 | 108

INDEX

SIDESHIFT TYPE 209 | 109 | 108



READ THIS MANUAL VERY CAREFULLY BEFORE STARTING-UP THE MACHINE.

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1 SAFETY RULES



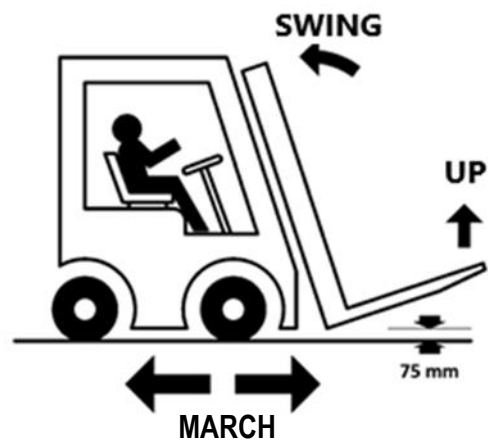
Don't carry passengers



Don't cross the mast



Don't pass under the load



2 INTRODUCTION

2.1 Use and upkeep of this manual

This “User Manual” (hereinafter referred to as Manual) is supplied together with the A.T.I.B. SIDESHIFT TYPE 209 | 109 | 108 pursuant the CE DIRECTIVE 2006/42/CE date 17/05/2006 and amendments.

The information contained here are imperative for the correct use of the attachment and must be known by the personnel who install, use, maintain and repair it.

This manual must be considered integral part of the attachment and must be kept as long as the attachment is in use on any machine in an accessible place, protected, dry and available for immediate consultation.

Should this manual be lost, the operator can apply for the supply of further copies from the manufacturer.

The manufacturer reserves the right to modify this Manual without notice and without the obligation to update the copies previously distributed.

The manufacturer is not liable in cases of:

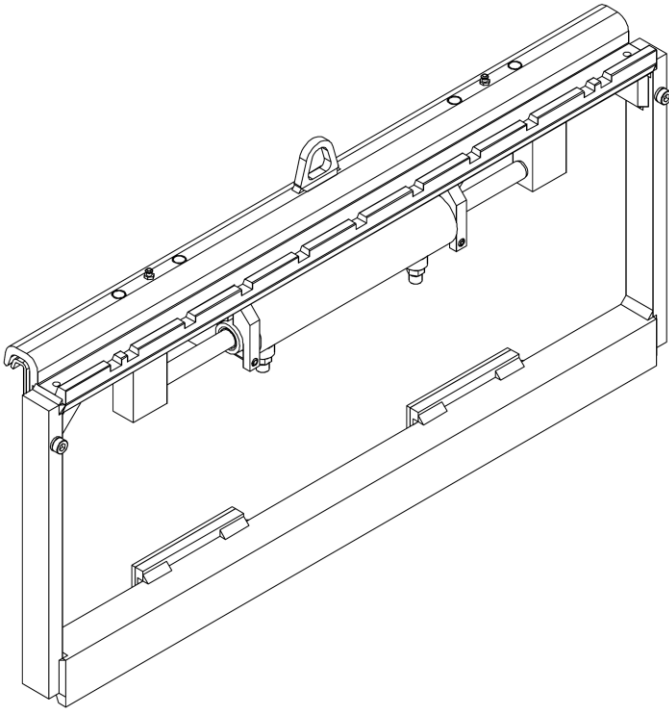
- improper use of the attachment;
- use by untrained personnel;
- use contrary to current national and international laws;
- lack of recommended maintenance;
- non authorised modifications and repairs;
- use of non original spare parts or parts for other models;
- failure to adhere, either totally or partially, to these instructions;
- exceptional circumstances.

The Nominal Capacity of the forklift / Equipment combination is established by the original manufacturer of the forklift and may be lower than that indicated on the identification plate.

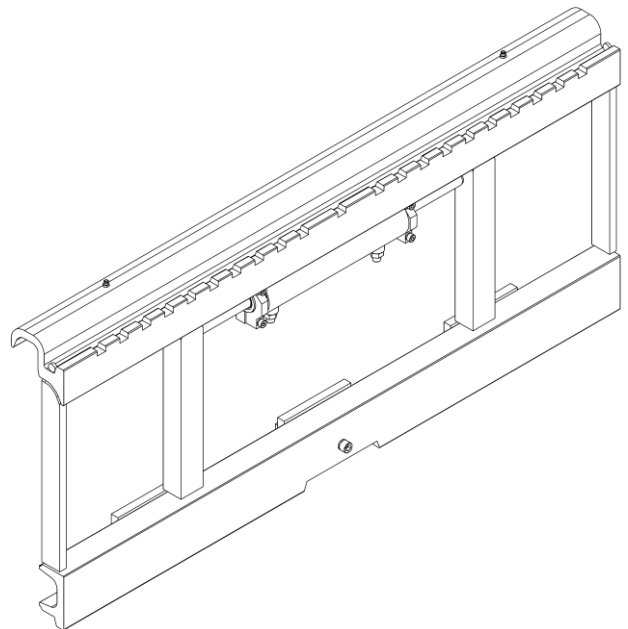
Consult the plate of the forklift (Directive 2006/42 / EC)

2.2 Description of equipment

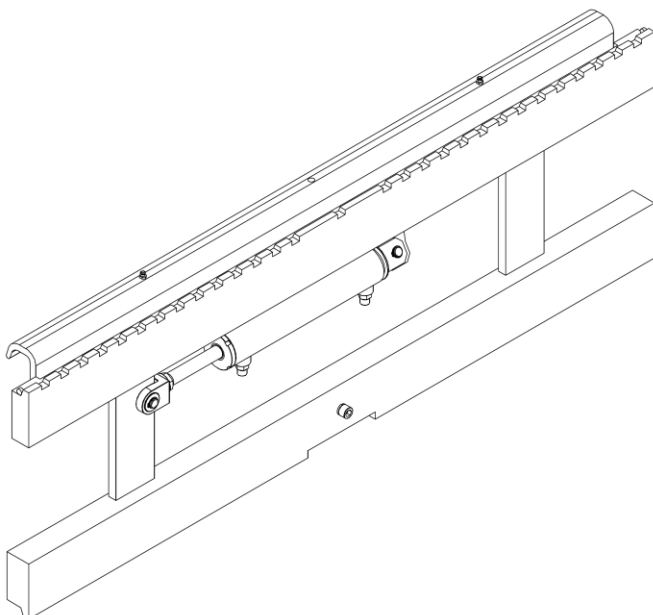
TYPE 209



TYPE 109

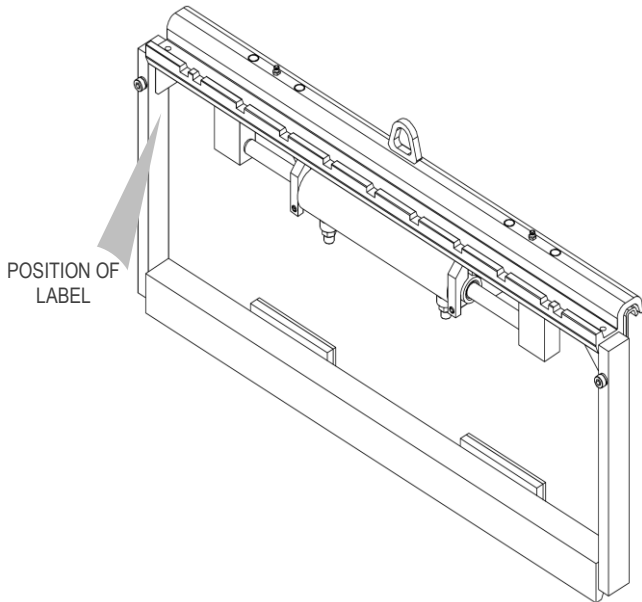


TYPE 108



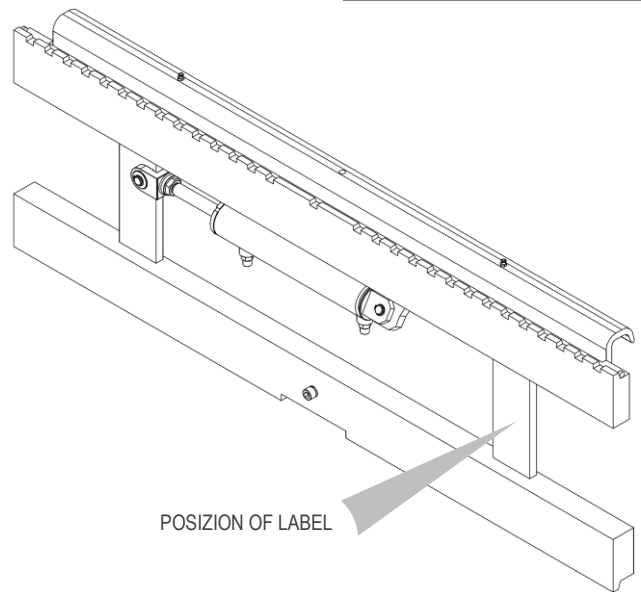
All the A.T.I.B. - SIDESHIFT TYPE 209 | 109 | 108 are identified by means of a sticky identification label (*Tab. 1*) position of identification label on equipment (*Picture 1* and *Picture 2*).

TYPE 209 E 109





Picture 1

TYPE 108



Picture 2

1. TYPE	8. NOMINAL CAPACITY	kg/mm	11. MAX. TORQUE	daN m
2. CODE	9. CLAMPING CAPACITY	kg/mm		
3. SERIAL N°				
4. YEAR OF MANUFACTURE	10. MAX. OPERATING PRESSURE	bar	A.T.I.B. S.r.l. Via Quinzanese snc, 25020 Dello (BS) - ITALIA +39 030/9771711 info@atib.com - atib.com	
5. WEIGHT	WARNING: RESPECT THE RATED CAPACITY OF TRUCK AND ATTACHMENT COMBINED			
6. THICKNESS				
7. CENTER OF GRAVITY				

Tab. 1

1. **TYPE**
It identifies the model of the equipment as shown in the catalogue.
2. **CODE**
It identifies the equipment order code.
3. **SERIAL N°**
It progressively identifies the individual equipment.
The series number has been stamped should the tag go missing or be damaged. Always refer to the series number for any kind of information.
4. **YEAR OF CONSTRUCTION**
It indicates the year of construction.
5. **WEIGHT**
It indicates the Q weight of the equipment in kg.
6. **THICKNESS**
It indicates the thickness of the equipment in mm.
7. **CENTRE OF GRAVITY**
It indicates the distance in mm of the equipment CG center of gravity from the fork holding plate table.
8. **NOMINAL CAPACITY**
It indicates the maximum P load applicable to the hoisting equipment and the maximum CC barycentric distance of the load itself.
9. **CLAMPING CAPACITY**
Not applicable to this equipment.
10. **MAX OPERATING PRESSURE**
It indicates the maximum pressure applicable to the equipment.
11. **MAX. COUPLE**
Not applicable to this equipment.

The A.T.I.B. - SIDESHIFT TYPE 209 | 109 | 108 was planned and built to allow the displacement of loads in a direction transversal to the direction of travel of the forklift and to facilitate gripping and supporting the load without having to perform annoying maneuvers with the forklift, all at the expected operating pressures unless otherwise indicated in the case of specific applications (see identification plate).

This equipment must be applied between the fork holding plate of the lift truck and the forks, and connected to the distributor by means of a hydraulic circuit.

The sideshifting movement through cylinder hydraulic actioning.

The coupling components of the fork holding plate are manufactured in compliance with the ISO 2328 norm.

3 INSTALLATION

Verify the nominal capacity of equipment

To check the nominal capacity of equipment, consult the identification label (*Tab. 1* pag. 6).



Make sure that the operator of the forklift is aware of the maximum capacity of the attachments, so as NOT to pose a danger to himself and to the people who work in his vicinity.

The forklift manufacturer is responsible for calculating the residual capacity of the forklift /equipment assembly.

Check operating pressure and flow rate of oil

A.T.I.B. advises to respect the hydraulic flow rates and operating pressures shown in *Tab. 2*, in order to optimize the operation of the equipment and avoid problems during the work or commissioning phases. The values are indicative and may vary depending on the equipment.

TYPE e ISO 2328	CAPACITY (l/mm)			Max. operating pressure (Bar) (Bar)
	Min.	Max.	recommended	
209 ISO II	5	15	10	200
109 ISO III	10	20	15	200
108 ISO II	5	15	10	200
108 ISO III	10	20	15	200
108 ISO IV	12	25	18	200

Tab. 2



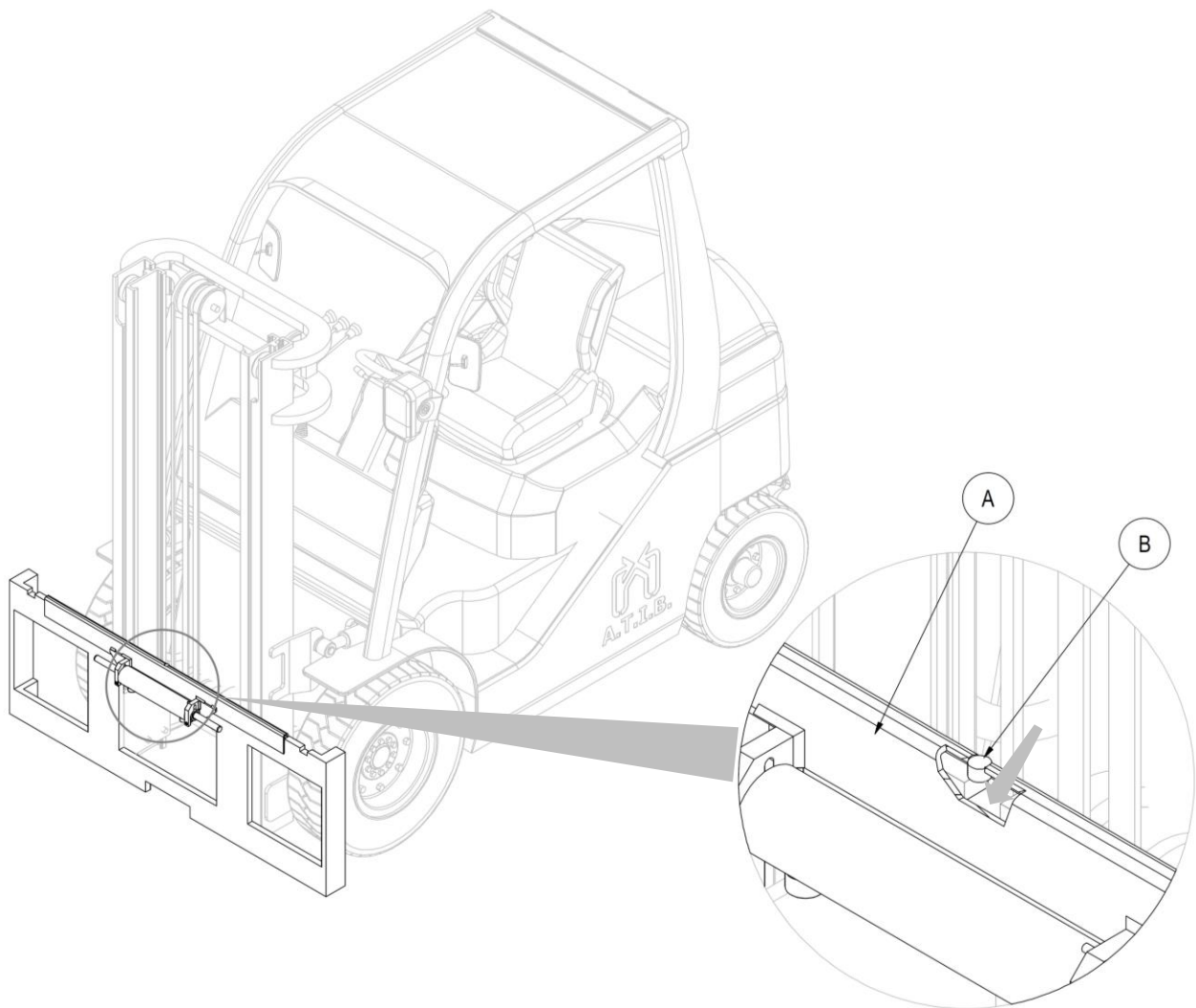
RESPECT THE MAXIMUM WORKING PRESSURES INDICATED

3.1 Installation

3.1.1 Attachment installation - TYPE 209

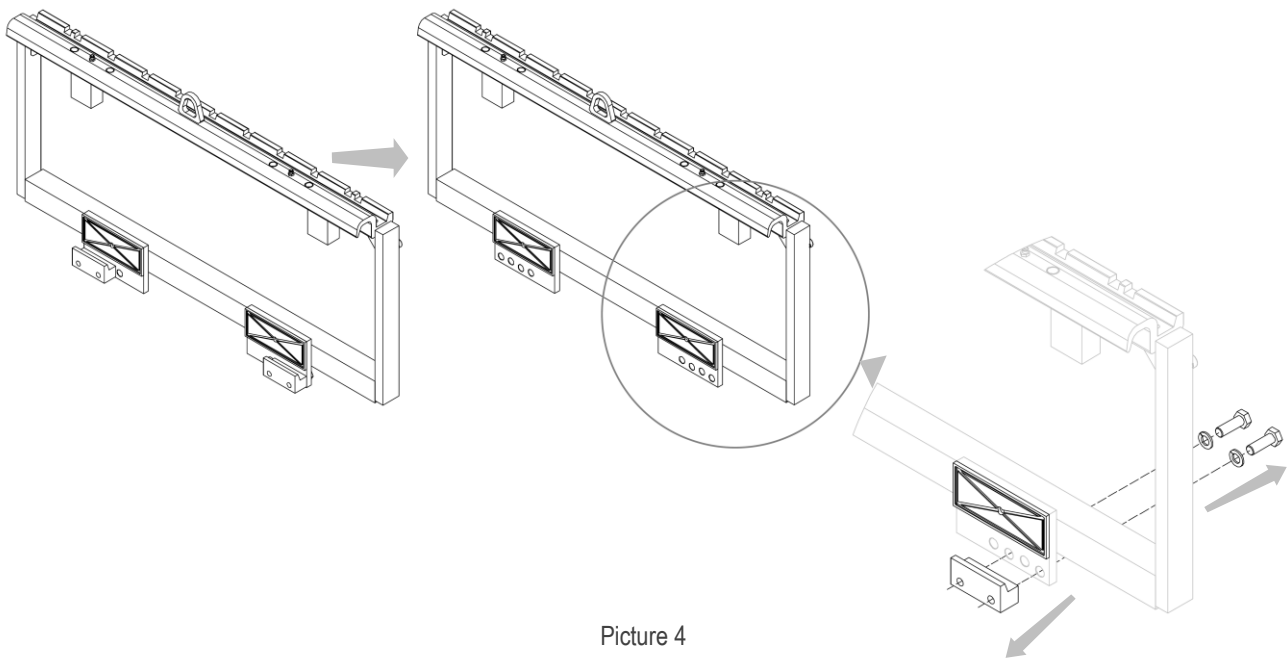
TYPE 209

1. Before installation, verify the condition of the fork carriage, ensuring that it is not deformed.
2. Also make sure that the profiles of the fork holding plate are not deformed, in order to allow a good coupling with the equipment.
3. Check the condition of the pipes, replacing those that are in bad condition.
4. Manually Take the double hook **A** (with the corresponding cylinder) and place it on the upper profile of the fork carrier, placing the centring tooth **B** into the central notch (*Picture 3*).



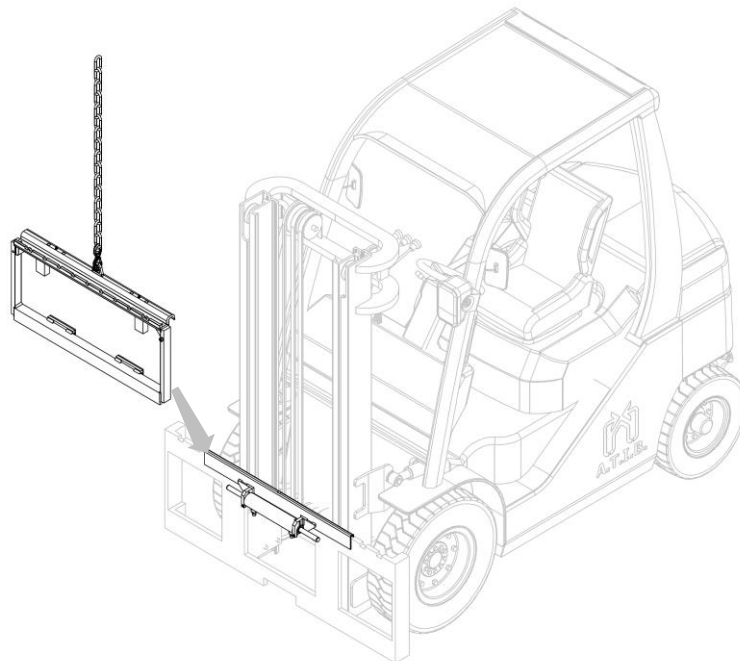
Picture 3

5. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 4*).



Picture 4

6. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the identification plate (*Picture 1* and *Tab. 1* pag. 6).
7. With an overhead crane or with a hoist of sufficient capacity hook the attachment on the double hook, taking care to position the equipment correctly (*Picture 5*).

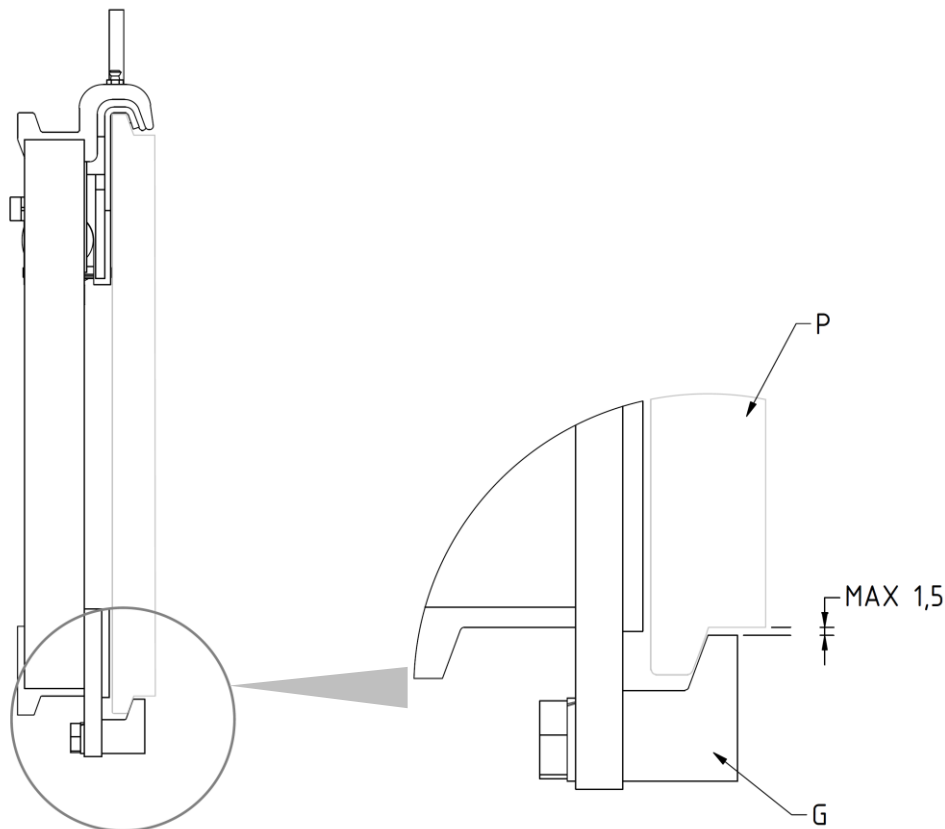


Picture 5

8. Screw the two bottom hooks **G** with bolts so that the attachment is safely mounted on the fork carriage **P** (with a tolerance max. 1,5mm, *Picture 6*), reaching to the following torques *Tab. 3*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm

Tab. 3



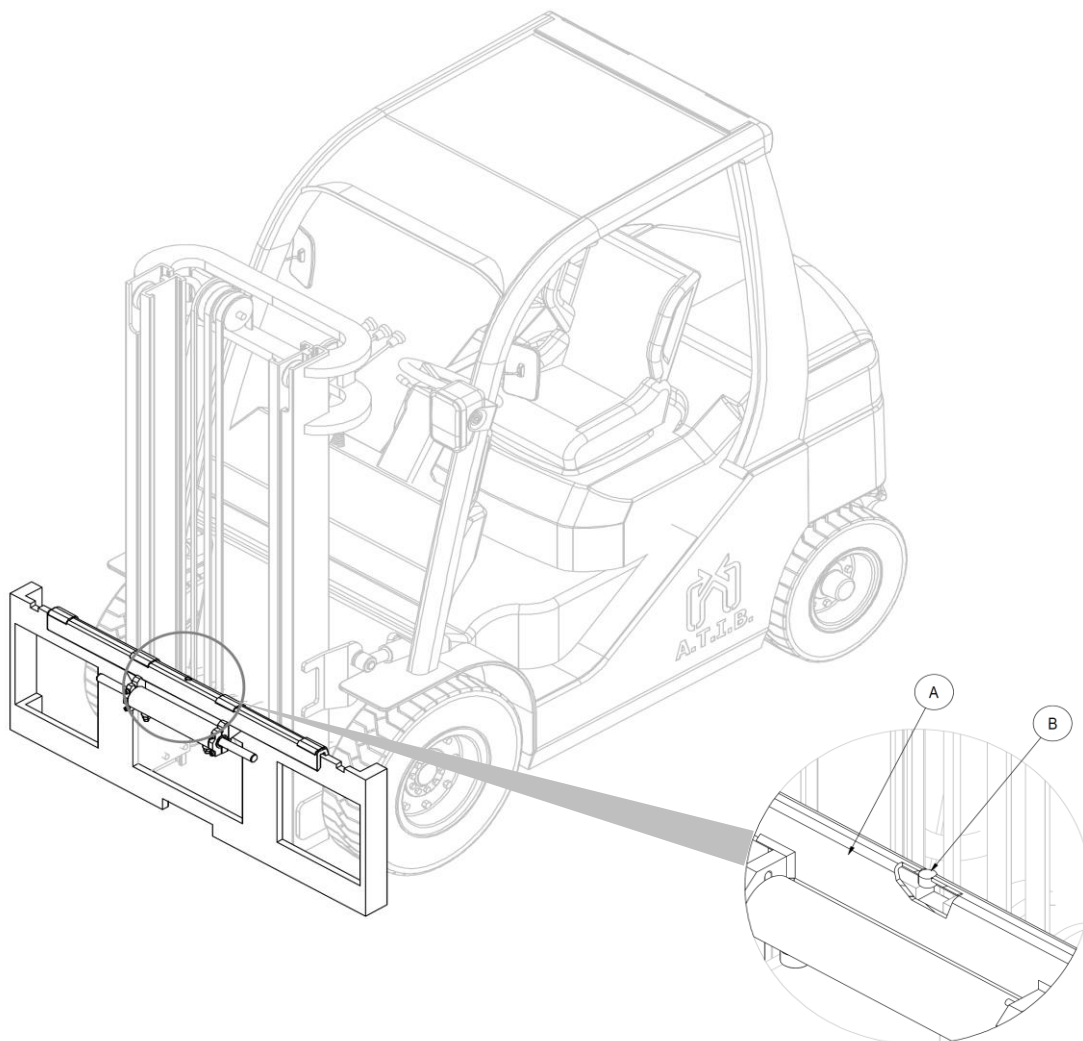
Picture 6

9. Lubricate the contact parts.
10. Connect the hydraulic circuit; making sure that the operating pressure of the pipes is higher than or equal to that indicated on the identification label (*Picture 1* and *Tab. 1* pag. 6).
11. Before inserting the forks or any other equipment, unscrew the lateral safety screws and then screw them back on when the operation is completed (if the forks are mounted) in order not to allow the forks / equipment to come out.

3.1.2 Attachment installation - TYPE 109

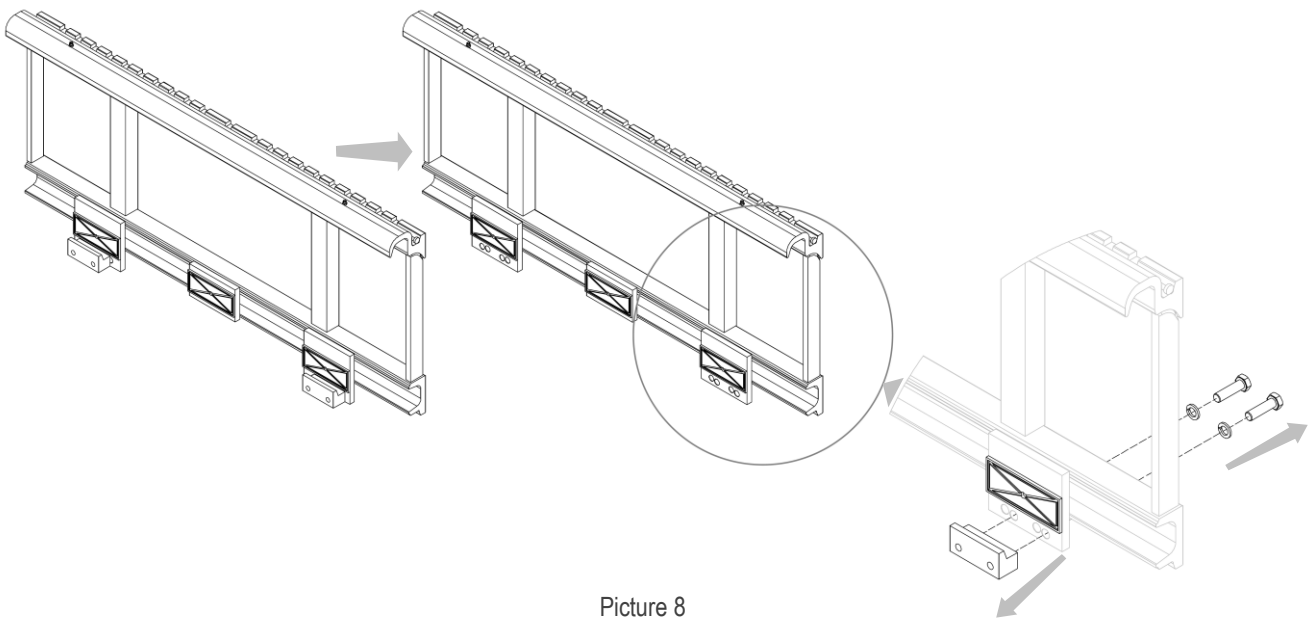
TYPE 109

1. Before installation, verify the condition of the fork holding plate, ensuring that it is not deformed.
2. Also make sure that the profiles of the fork holding plate are not deformed, in order to allow a good coupling with the equipment.
3. Check the condition of the pipes, replacing those that are in a bad condition.
4. Manually Take the double hook **A** (with the corresponding cylinder) and place it on the upper profile of the fork carriage, placing the centring tooth **B** into the central notch (*Picture 7*).



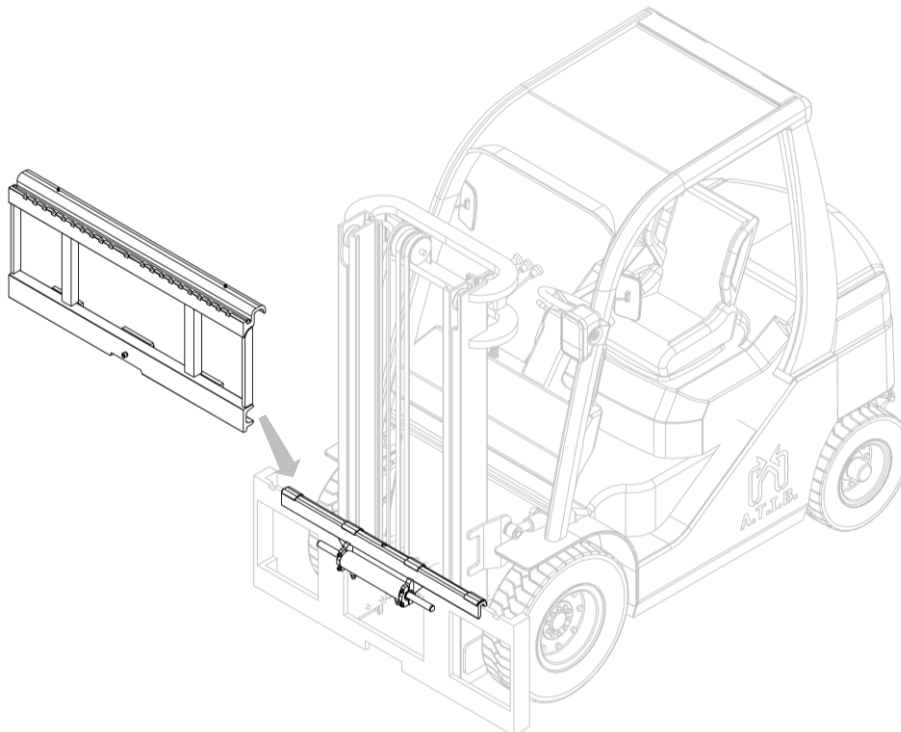
Picture 7

5. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 8*).



Picture 8

6. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the plate (*Picture 1 and Tab. 1 pag. 6*).
7. with an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly (*Picture 9*).

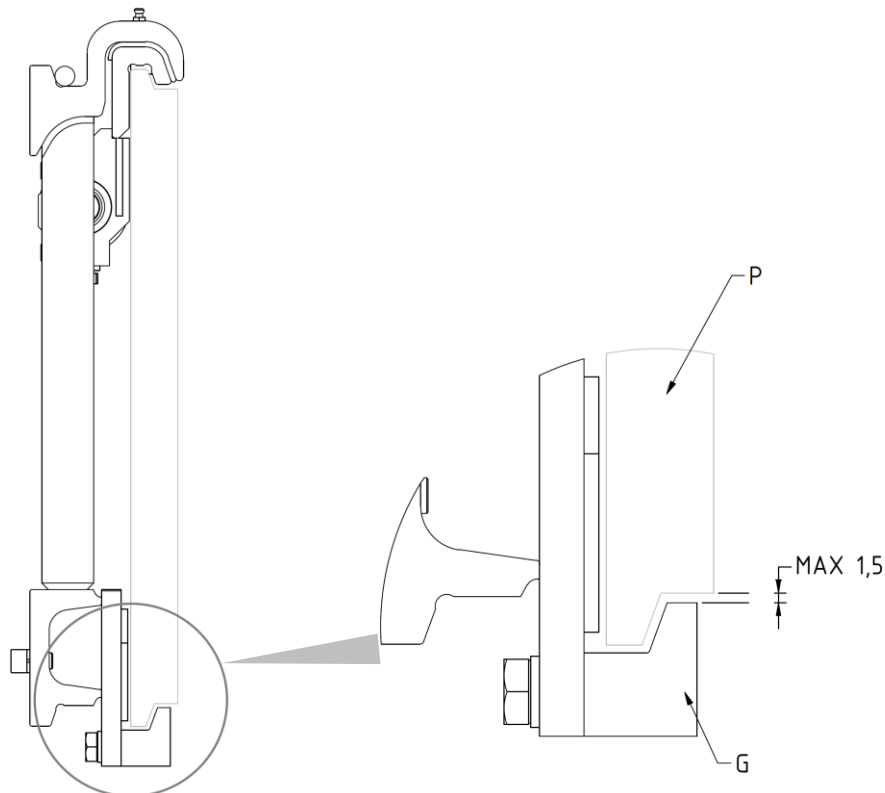


Picture 9

8. Screw the two bottom hooks **G** with bolts so that the attachment is safely mounted on the fork carriage **P** (with a tolerance max. 1,5mm, *Picture 10*), reaching to the following torques *Tab. 4*.

ISO 2328	THREAD	TORQUE
ISO III	M14	140 Nm

Tab. 4



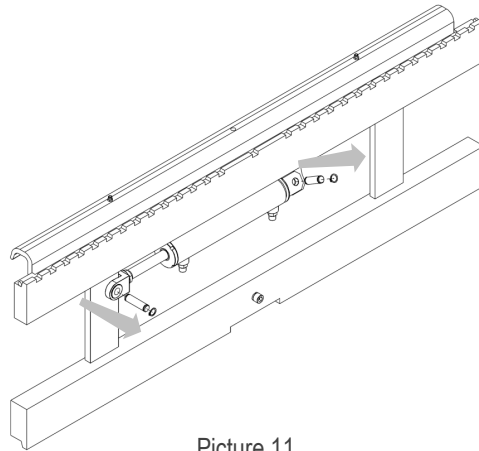
Picture 10

9. Lubricate the contact parts.
10. Connect the hydraulic circuit; making sure that the operating pressure of the pipes is higher than or equal to that indicated on the identification label (*Picture 1* and *Tab. 1* pag. 6).
11. Before inserting the forks or any other equipment, unscrew the central safety screw and then screw them back on when the operation is completed (if the forks are mounted) in order not to allow the forks / equipment to come out.

3.1.3 Attachment installation - TYPE 108

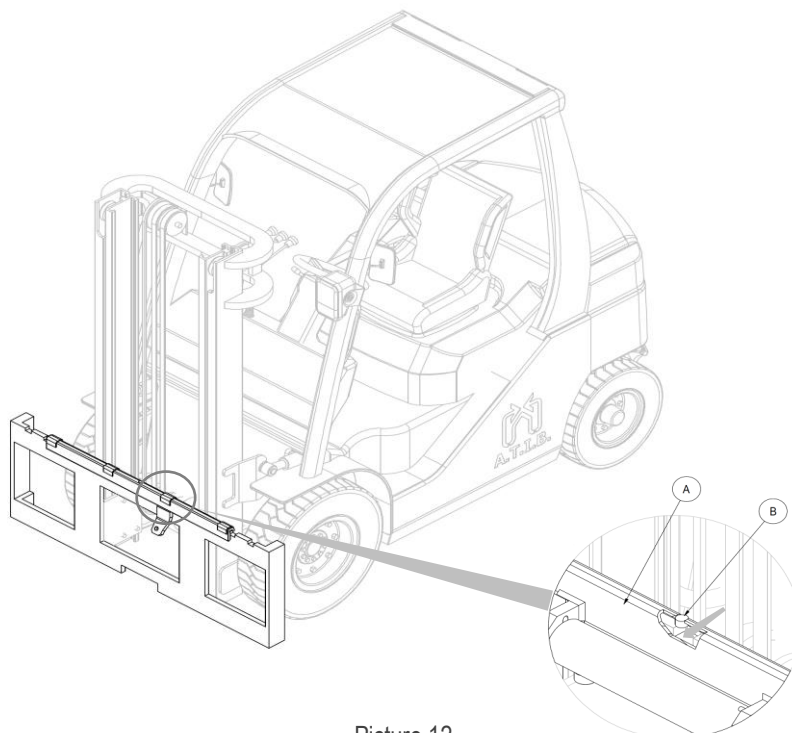
TIPO 108

1. Before installation, verify the condition of the fork holding plate, ensuring that it is not deformed.
2. Also make sure that the profiles of the fork holding plate are not deformed, in order to allow a good coupling with the equipment.
3. Check the condition of the pipes, replacing those that are in a bad condition.
4. remove the circlips of the pins that support the translation cylinder and, after having extracted the pins themselves, manually remove the cylinder (*Picture 11*).



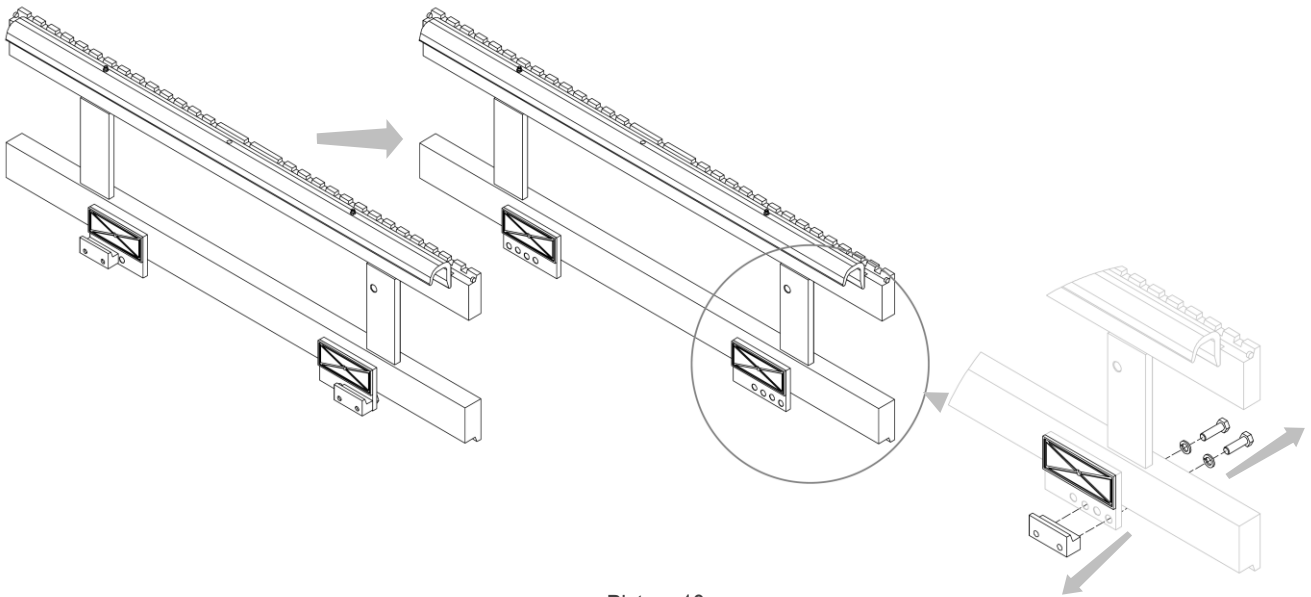
Picture 11

5. Manually Take the double hook A (with the corresponding slides) and place it on the upper profile of the fork carrier, placing the centring tooth B into the central notch (*Picture 12*).



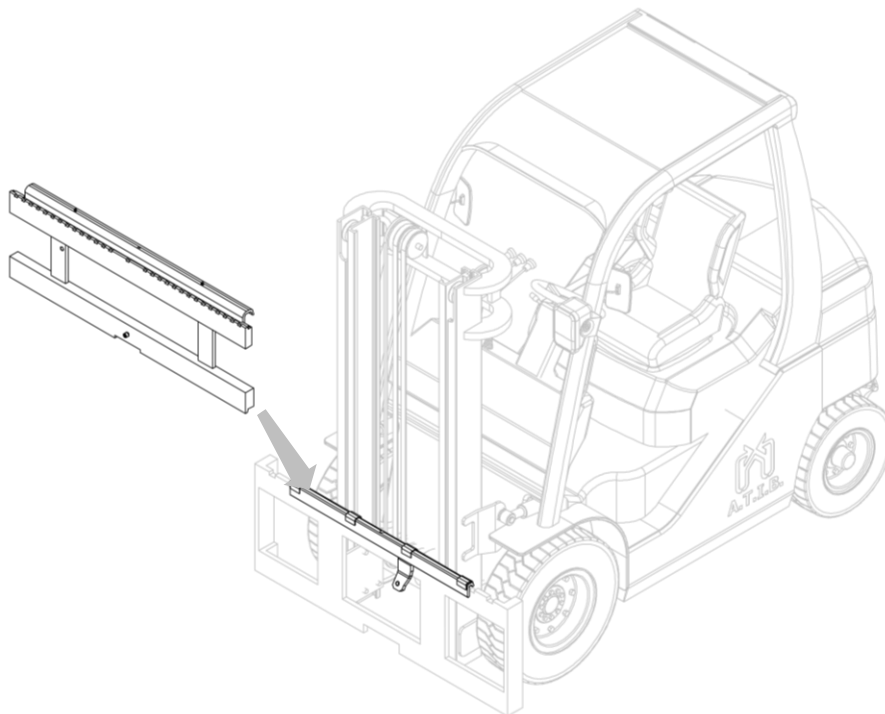
Picture 12

6. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 13*).



Picture 13

7. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the identification plate (*Picture 2 and Tab. 1 pag. 6*).
8. with an overhead crane or with a hoist of sufficient capacity hook the attachment on the double hook, taking care to position the equipment correctly (*Picture 14*).

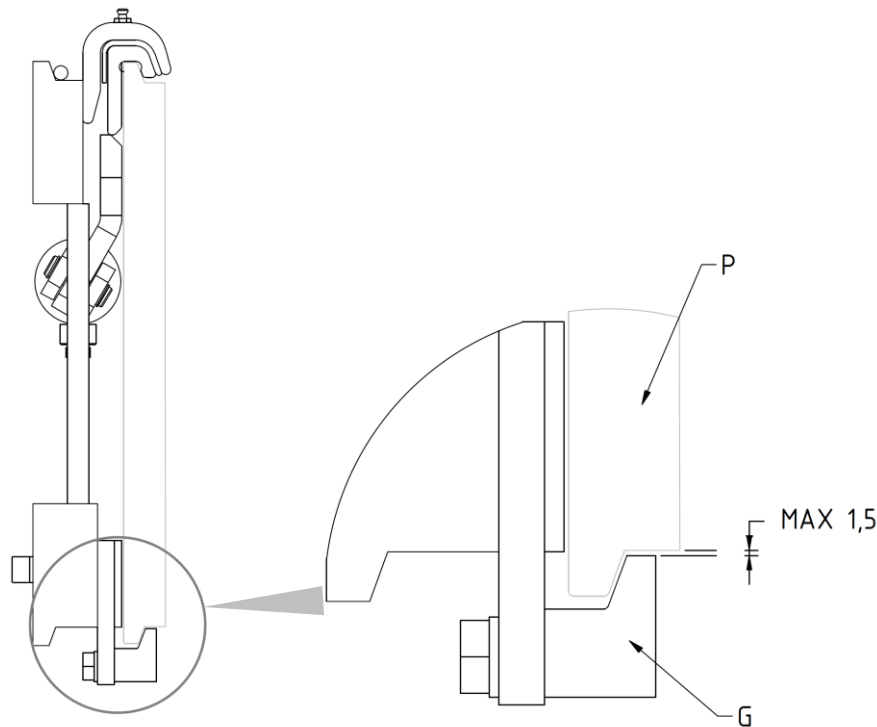


Picture 14

9. Screw the two bottom hooks **G** with bolts so that the attachment is safely mounted on the fork carriage **P** (with a tolerance max. 1,5mm, *Picture 15*), reaching to the following torques *Tab. 5*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm
ISO III	M14	140 Nm
ISO IV	M16	220 Nm

Tab. 5



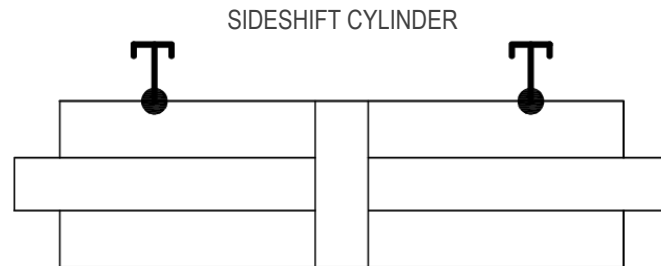
Picture 15

10. Replace sideshift cylinder, follow the steps in step backwards (*Picture 11*).
11. Lubricate the contact parts.
12. Connect the hydraulic circuit, making sure that the operating pressure of the pipes is higher than or equal to that indicated on the identification label (*Picture 2* and *Tab. 1* pag. 6).
13. Before inserting the forks or any other equipment, unscrew the central safety screw and then screw them back on when the operation is completed (if the forks are mounted) in order not to allow the forks / equipment to come out.

4 HYDRAULIC SYSTEM

4.1 Hydraulic System – TYPE 209

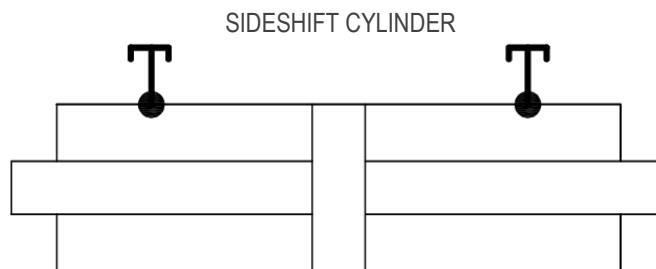
TYPE 209



Picture 16

4.2 Hydraulic System – TYPE 109

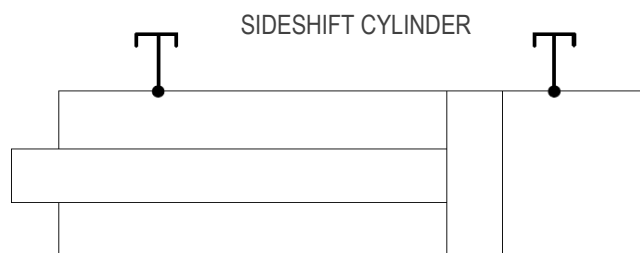
TYPE 109



Picture 17

4.3 Hydraulic System – TYPE 108

TYPE 108



Picture 18

5 USE RULES

Before using the equipment, check the tightness of the pipes and the correctness of assembly and connection by performing about ten preliminary operations.

When using the equipment, it is necessary to follow the instructions listed below:

1. Observe the capacity limits of the equipment.
2. Do not use the equipment when people or animals are within the range of action of the forklift.
3. Do not try to lift loads by clamping them between the two forks.
4. Do not try to move loads sideways by sliding them on the ground.
5. Do not exceed the maximum pressure value indicated on the identification plate.
6. Operate the equipment from the driver's seat of the forklift by a single operator.
7. Act gently on the translation control lever, avoiding water hammer as much as possible.
8. Any operation relating to installation, use and maintenance must be performed by specialized personnel equipped with appropriate equipment for the type of intervention to be carried out.
9. Carry out maintenance and / or repair operations with the forklift stopped and with the hydraulic circuit not active, using suitable protective equipment (gloves, safety shoes, etc.).
10. Operate the piston rods only when they are correctly mounted on the equipment; Otherwise, the piston rods could be violently ejected by the oil pressure.

The considered acoustic pressure level is lower than 70 dB (A).

Every ATIB attachments are projected and constructed according to a load positioned (as regards its centre of gravity) at a certain distance from vertical part of the fork.

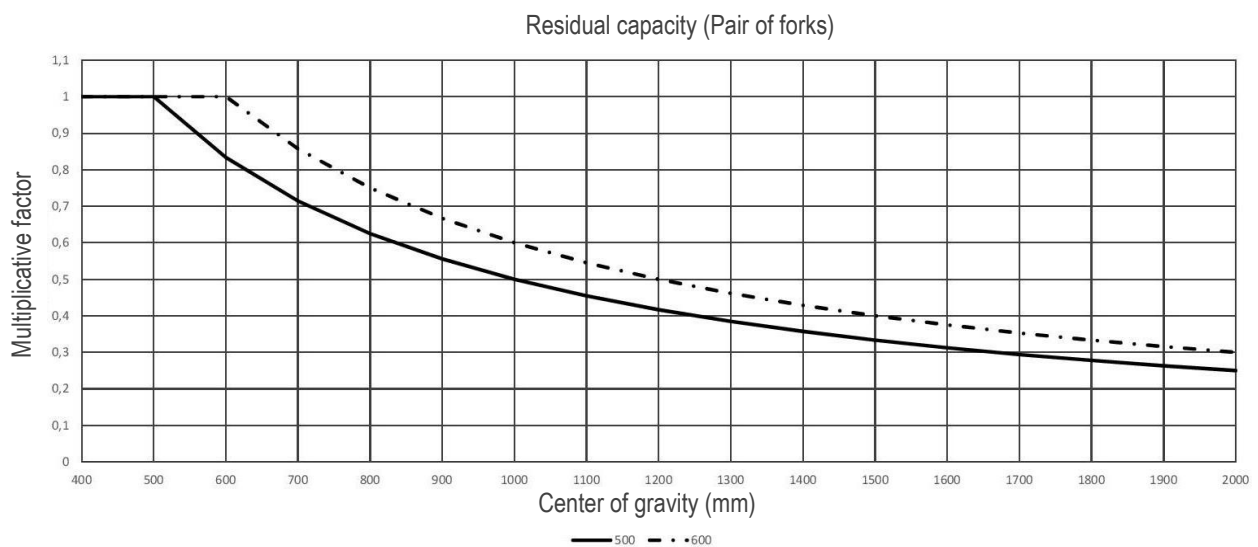
If you need to increase the distance of the center of gravity as regards vertical part of the fork you have to reduce the weight of the load.

In this occasion, we suggest to control the chart (*Picture 19*) where, according to the increase of the centre of gravity (x-axis) there is a load reduction multiplying factor (y-axis).

The multiplying factor, obtained based on desired load centre position, will be multiplied with nominal capacity of the equipment. The result of this multiplication will be actual capacity of the attachment.

Continuous line is for equipment with load center at 500 mm.

Dotted line is for equipment with load center at 600mm.



Picture 19

NOTE - This calculation is valid only for "stable" load, in case of movement of liquid material please contact the producer.



To check the nominal capacity of the combination forklift - attachment ask the producer of the forklift.



The condition of the soil, the quickness of the movement of the load and the lifting height can affect the hold of the load and must be taken into consideration as regards specific occasions.



Side shifting movement is forbidden in movement.
Side shifting movement in condition of lifted mast is permitted only to bring back the load at the center of the mast.

Nominal capacity of the combination forklift - attachment is established by the producer of the forklift and can be lower than the one indicated on the identification label of the attachment.

Check label of the forklift (Directive 2006/42/CE).

6 PERIODIC MAINTENANCE

Failure to adhere to the norms and established times for maintenance operations, will be detrimental to the good functioning of the equipment and will annul the guarantee conditions.

All maintenance operations must be carried out with the forklift motionless and the hydraulic circuit not activated, perimeter the entire maintenance area, using the necessary protective devices and, if it is necessary to disassemble the cylinders, always using a tray or container to recover the oil still present in the cylinder itself.

To avoid problems regarding the use of the equipment, A.T.I.B recommends changing the hydraulic oil and its filters regularly and trying to keep the system as clean as possible during maintenance operations.

WARNING!!!

The hydraulic parts can be very hot. Use adequate protections.

Beware of any leaks. Oil under high pressure can damage the eyes and skin. Always wear protective goggles on the sides as well.

Never remove valves, hoses or other potentially pressurized parts when it is active.

6.1 Maintenance every 100 hours

1. Check the conditions of the hydraulic connections (pipes and fittings), replacing, if necessary, the worn parts.
2. Check the tightening torque of the bolts of the lower sealing hooks of the equipment, verifying that it is as indicated in Tables: *Tab. 3*(pag.11), *Tab. 4*(pag.14) and *Tab. 5*(pag.17) and, if necessary, intervene on the tightening of the screws that support them.
3. Check the clearance between the lower part of the fork holder plate and the lower hooks of the equipment, verifying that it is as indicated in Pictures: *Picture 6* (pag.11), *Picture 10* (pag.14) and *Picture 15*(pag.6) and, if necessary, intervene on the tightening of the screws that support them.
4. Clean and lubricate all sliding parts (look section 8.2 at pag.31).

6.2 Maintenance every 300 Hours

1. Check the condition of upper and lower sliding devices if an excessively worn component is found, it is recommended to replace the entire assembly of the component in question.
2. Also carry out the operations listed in the previous point (Point 6.1).

6.3 Maintenance every 1000 Hours

1. Check the condition of upper and lower sliding devices if an excessively worn component is found, it is recommended to replace the entire assembly of the component in question.
2. Also carry out the operations listed in the previous points (Point 6.1 and 6.2 pag.22).

6.4 Maintenance every 2000 Hours

1. Proceed with a thorough inspection of the equipment; this, possibly, must be performed by qualified personnel, able to identify any problems that could compromise the safety and efficiency of use of the equipment. The defects that can be found can be many:
 - Check the condition of all equipment components (cylinders, hooks, gaskets, fittings, grease nipples, etc.), verifying that their conditions are optimal and, if there are worn components, proceed with their replacement / repair.
 - Check the condition of the sliding and working surfaces and proceed with their replacement / repair if they are damaged.

For further possible problems (and relative solutions) refer also to *Tab. 6 pag.30*.

2. Disassemble the cylinders and check the condition of the rods and seals, if there is a damaged or excessively worn seal, it is always recommended to replace the entire assembly seals.
3. Replace the seals even in the event of oil leaks and the rods if scratched (the cylinders must always be tested inserted in the equipment in order to avoid the sudden expulsion of the rods).
4. Also carry out the operations listed in the previous points (*Point 6.1, 6.2 and 6.3 at pag.22*).

Please Note: Intensify interventions in case of use in particularly severe conditions

7 DISASSEMBLY PROCEDURE

7.1 Disassembly attachment from forklift

TYPE 209 / 109

7.1.1 Disassembly attachment - TYPE 209 and 109

1. Relieve the pressure of the hydraulic system.
2. Remove the lower hooks of equipment.
3. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the plate.
4. with an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly.

TYPE 108

7.1.2 Disassembly attachment - TYPE 108

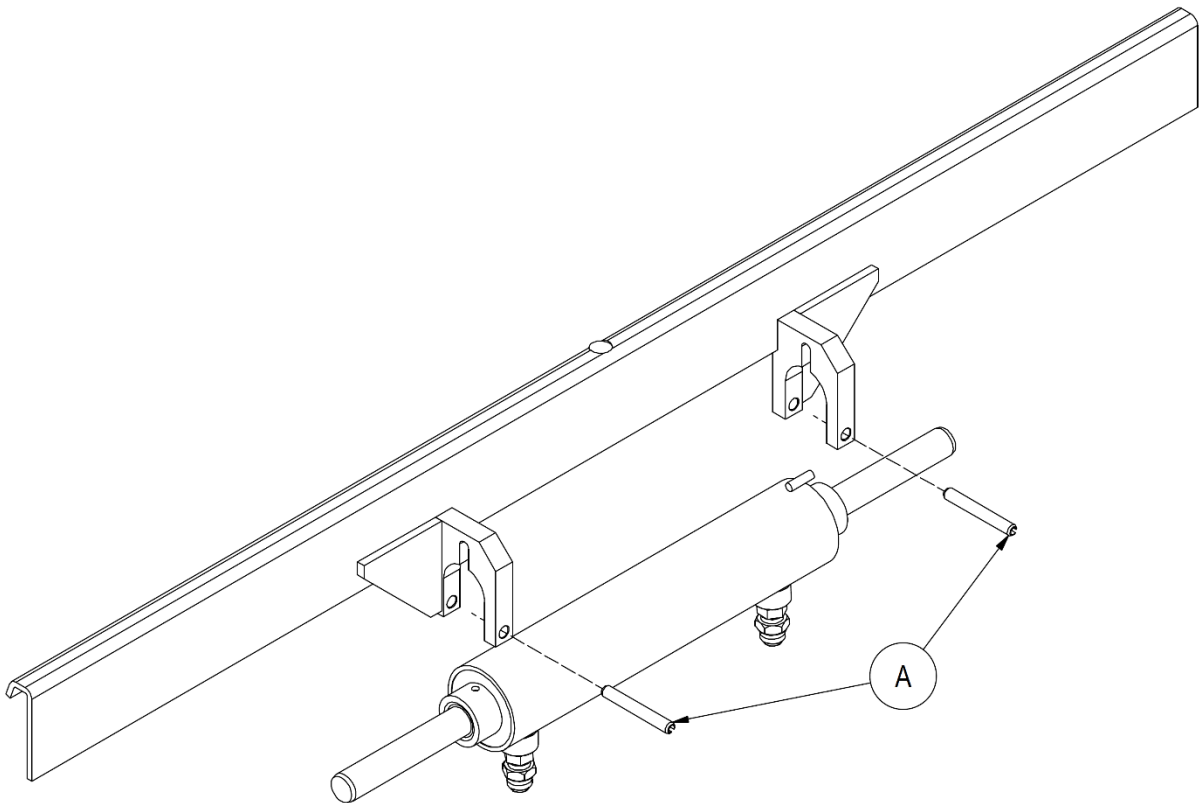
1. Relieve the pressure of the hydraulic system.
2. Remove the lower hooks of equipment.
3. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the plate.
4. With an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly.

7.2 Remove Sideshift Cylinder from Attachment

TYPE 209

7.2.1 SLS Cylinder Removal - TYPE 209

1. Discharge the pressure of the hydraulic system and disconnect the pipes, making sure to place a tray or container under the fittings to recover the oil still present in the cylinder.
2. Remove the 2/4 elastic pins **A** and slide the cylinder out of its seat (*Picture 20*).

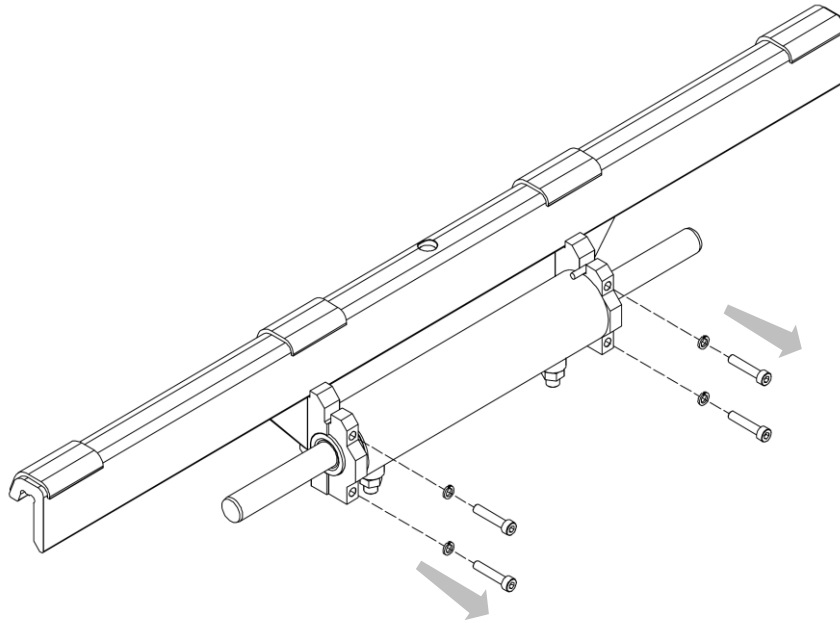


Picture 20

TYPE 109

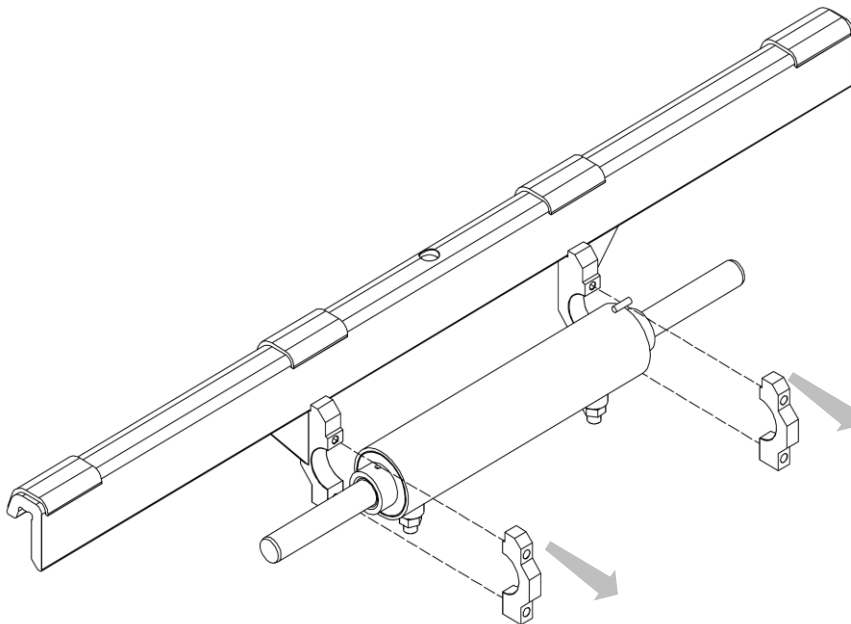
7.2.2 SLS Cylinder Removal - TYPE 109

1. Discharge the pressure of the hydraulic system and disconnect the pipes, making sure to place a tray or container under the fittings to recover the oil still present in the cylinder.
2. Unscrew the four screws that fix the front half-collar (*Picture 21*).



Picture 21

3. Remove the front half-collar and slide the cylinder out of its seat (*Picture 22*).

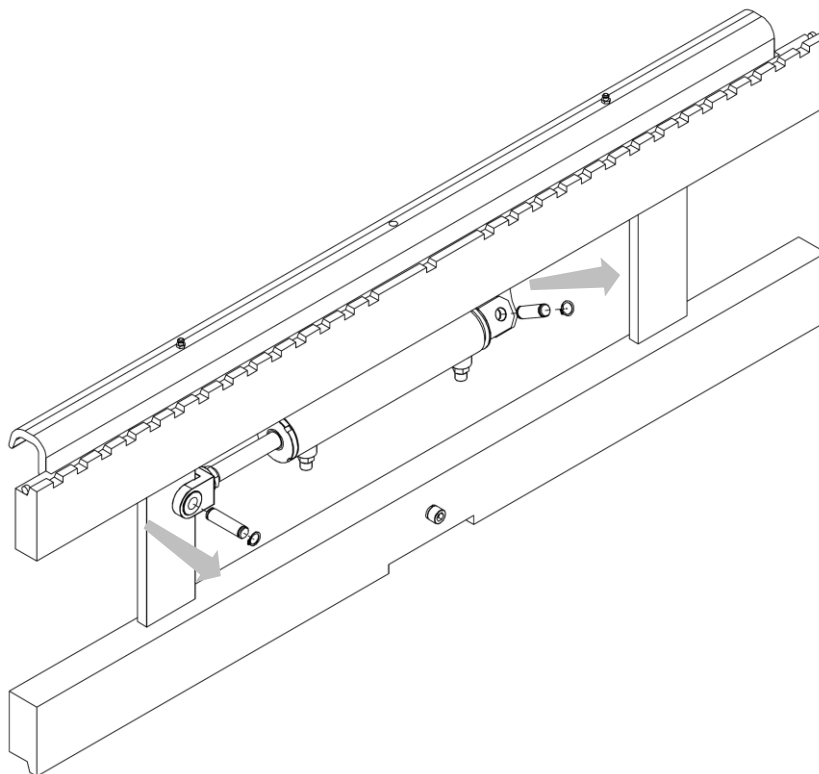


Picture 22

TYPE 108

7.2.3 SLS Cylinder Removal - TYPE 108

1. Discharge the pressure of the hydraulic system and disconnect the pipes, making sure to place a tray or container under the fittings to recover the oil still present in the cylinder.
2. Remove the 2/4 elastic pins **A** and slide the cylinder out of its seat (*Picture 23*).



Picture 23

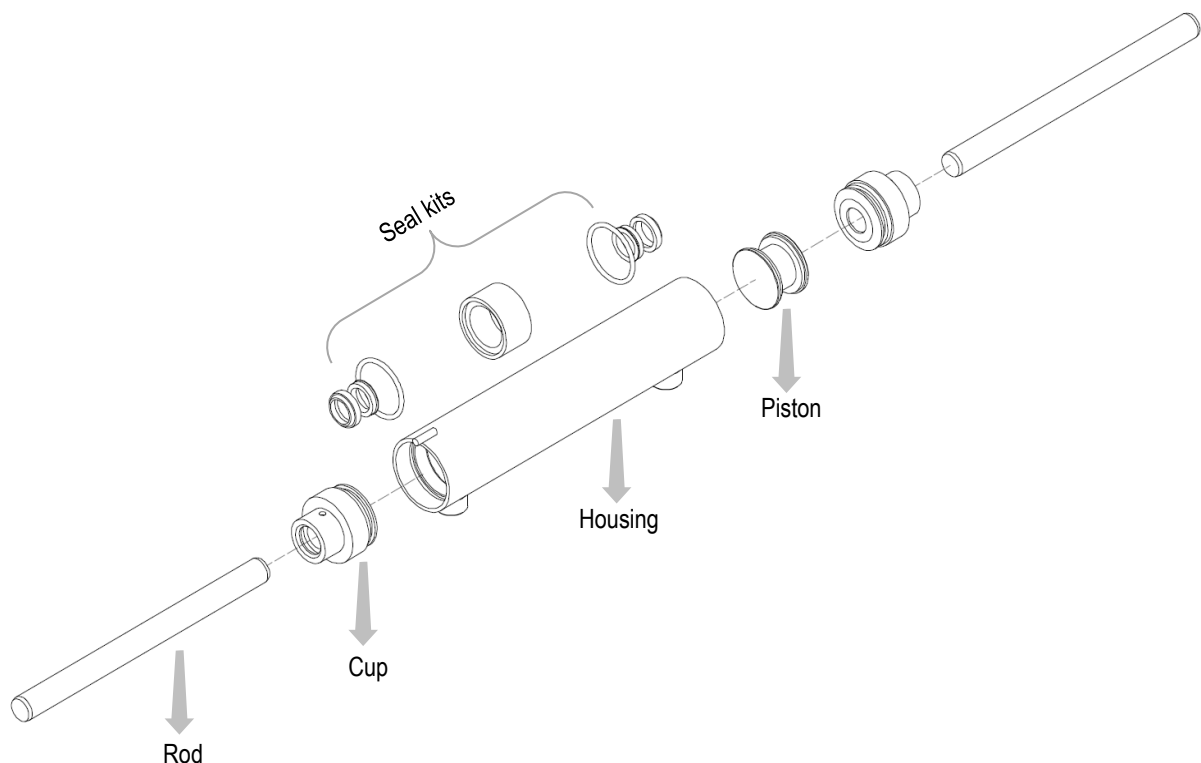
7.3 Sideshift Cylinder Disassembly

TYPE 209 / 109

7.3.1 Cylinder disassembly - TYPE 209 and 109

If it is necessary to replace the entire cylinder, reassemble everything by following the instructions listed in the point 7.2.1 pag.25 and 7.2.2 pag.26 backwards, if you also need to replace some cylinder components, proceed as indicated below (*Picture 24*):

1. Place the cylinder on a horizontal plane.
2. If only the rods have to be replaced, just remove them from the cylinder cap.
3. For replacing the internal seals is necessary to unscrew the cap with a sector wrench.
4. If it is difficult to unscrew the cap, it is necessary to slightly heat the area of the thread concerned to facilitate unscrewing.
5. Replace worn parts reassemble everything by following the instructions listed in the previous point backwards, taking care to re-lock the cylinder cap with medium thread lock.
6. if a one seal is damaged it is advisable to replace the entire seal kits.



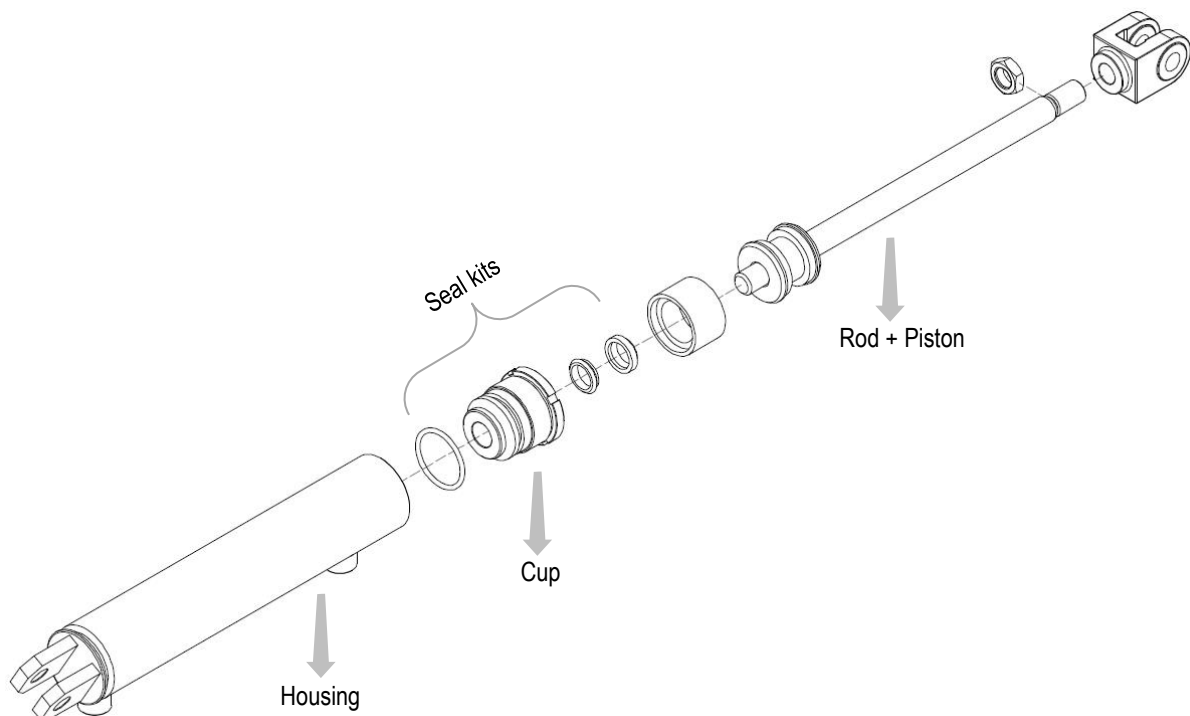
Picture 24

TIPO 108

7.3.2 Cylinder disassembly - TYPE 108

If it is necessary to replace the entire cylinder, reassemble everything by following the instructions listed in the point 7.2.3 pag.27 backwards, if you also need to replace some cylinder components, proceed as indicated below (*Picture 25*):

1. Place the cylinder on a horizontal plane.
2. Loosen the locknut locking the fork.
3. Unscrew the piston fork.
4. Unscrew the cylinder head.
5. The threads of ATIB cylinders are usually blocked with the aid of a thread locking solution. If it is difficult to remove the cap, it is necessary to slightly heat the area of the thread concerned to facilitate unscrewing.
6. Remove the various components and replace the damaged ones.
7. If a one seal is damaged it is advisable to replace the entire seal kits.



Picture 25

8 BREAKDOWNS AND SOLUTIONS

8.1 Breakdowns and Solutions

FAILURE	CAUSE	SOLUTION
	Insufficient pressure	Contact the forklift manufacturer
	Worn cylinder seals	Replace
	Low oil flow	Check the tank level and the pump
		Bottlenecks in the system: search and delete them
	Mechanical deformations of some parts	Repair or replace
Worn cylinder seals	Replace	
Irregular side shift	Worn slide parts	Replace
	Excessive friction between the sliding parts	Clean and lubricate the sliding parts
	Worn cylinder seals	Replace
	Lack of oil in the tank	Top up

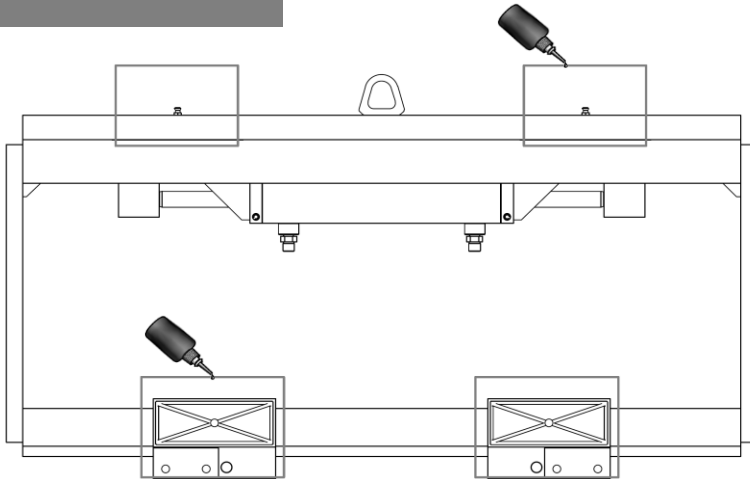
Tab. 6

Should there be other problems, please contact A.T.I.B. S.r.l.

8.2 Lubrication

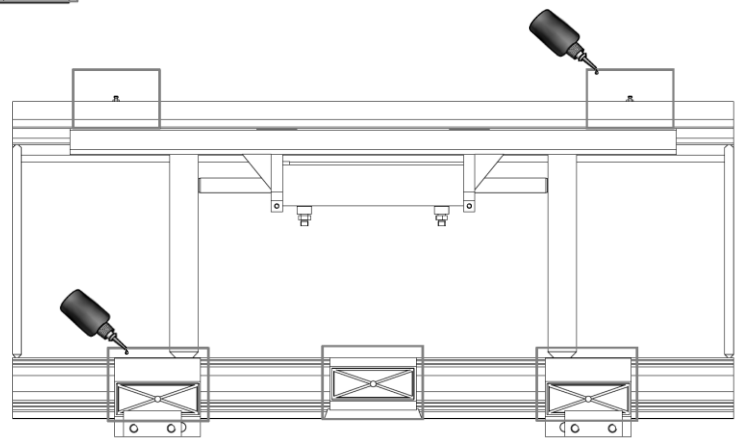
1. Lubricate the sliding parts using the special grease nipples
2. Lubricate the slide and relative scroll bar.

TYPE 209



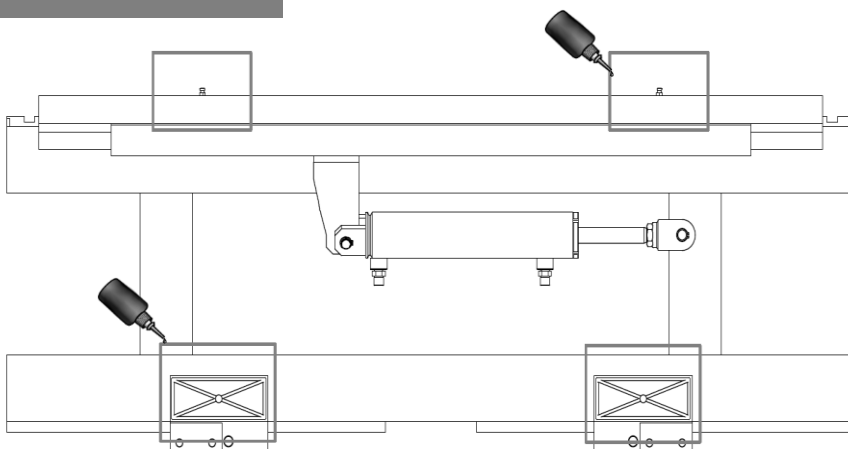
Picture 26

TYPE 109



Picture 27

TYPE 108



Picture 28

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