



ATiB MATERIAL
HANDLING

INSTRUCTIONS MANUAL FOR USE

FORK POSITIONER

TYPE 575 | 577 | 475 | 476

INDEX

FORK POSITIONER TYPE 575 | 577 | 475 | 476



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

INDEX	1
1 SAFETY RULES	3
2 INTRODUCTION	4
2.1 Use and upkeep of this manual	4
2.2 Description of equipment	5
3 INSTALLATION	9
3.1 Installation	10
3.1.1 Attachment installation - TYPE 575	10
3.1.2 Attachment installation - TYPE 577	13
3.1.3 Attachment installation - TYPE 475	16
3.1.4 Attachment installation - TYPE 476	19
3.2 Fork installation on the attachment	22
4 HYDRAULIC SYSTEM	23
4.1 Hydraulic System – TYPE 575	23
4.2 Hydraulic System – TYPE 577	24
4.3 Hydraulic System – TYPE 475	25
4.4 Hydraulic System – TYPE 476	25
5 USE RULES	26
6 PERIODIC MAINTENANCE	29
6.1 Maintenance every 100 hours	29
6.2 Maintenance every 300 hours	29
6.3 Maintenance every 1000 hours	30
6.4 Maintenance every 2000 hours	30
7 DISASSEMBLY PROCEDURE	31
7.1 Disassembly attachment from forklift	31
7.2 Forks Disassembly	32

7.3	Moving housing cylinder removal	33
7.3.1	Cylinder disassembly.....	34
7.3.2	Replacement of cylinder seal kits	35
7.3.3	Cylinder refitting.....	36
7.4	SLS Cylinder Removal – TYPE 577.....	37
7.4.1	Cylinder disassembly.....	37
7.4.2	Replacement of cylinders seal kits	38
7.4.3	Cylinder refitting.....	38
7.5	SLS Cylinder Removal – TYPE 476.....	39
7.5.1	Cylinder disassembly.....	40
7.5.2	Replacement of cylinder seal kits	41
7.5.3	Cylinder refitting.....	41
8	BREAKDOWNS AND SOLUTIONS.....	42
8.1	Breakdowns and solutions.....	42
8.2	Lubrication	43

1 SAFETY RULES



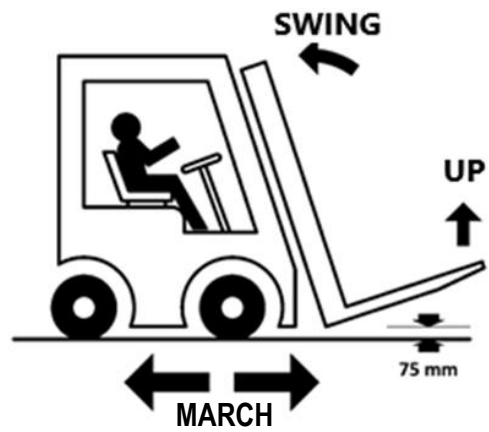
Don't carry passengers



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. FORK POSITIONER TYPE 575 | 577 | 475 | 476 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.

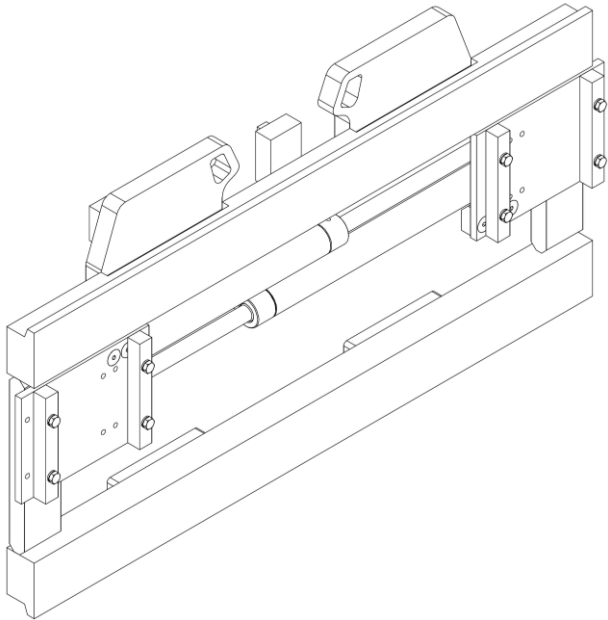
The manufacturer is not liable in cases of:

- 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.

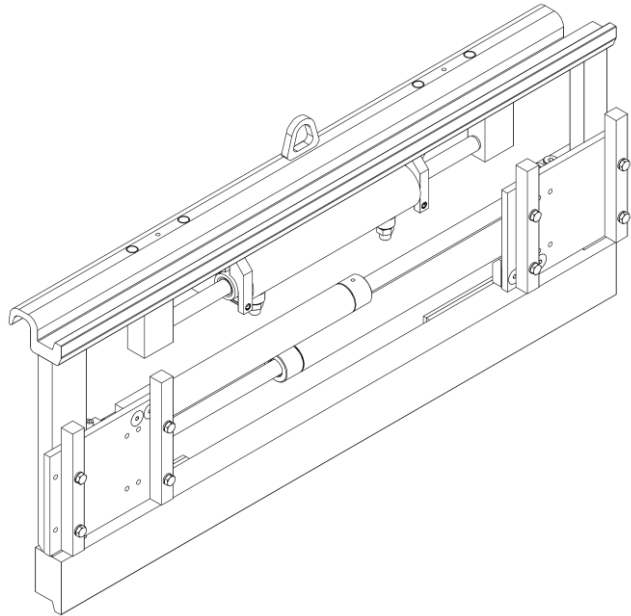
**The Nominal Capacity of the forklift / Equipment combination is established by the original manufacturer of the forklift and may be lower than that indicated on the identification plate.
Consult the plate of the forklift (Directive 2006/42 / EC)**

2.2 Description of equipment

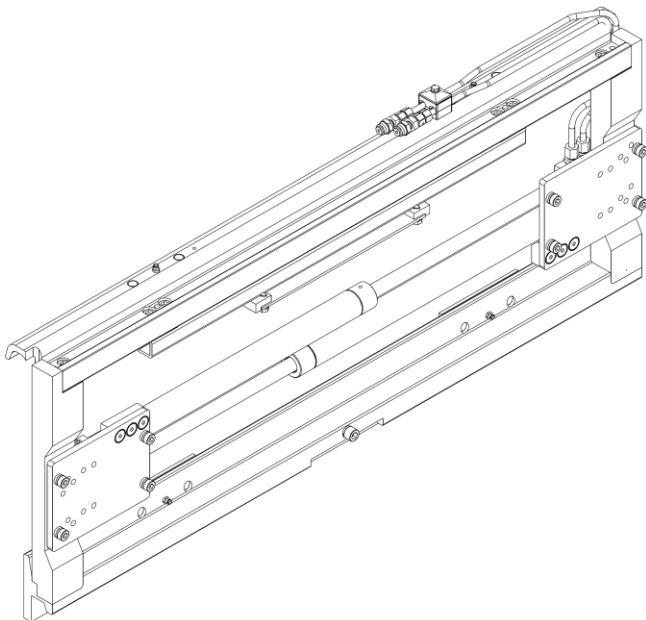
TYPE 575



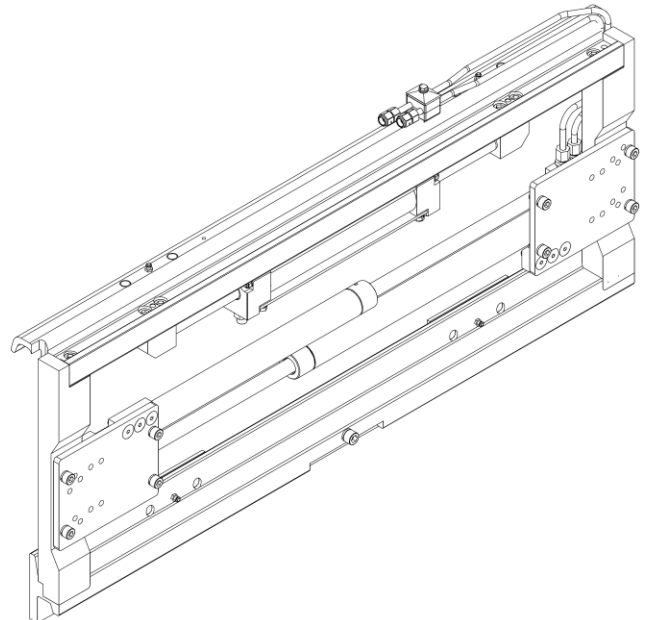
TYPE 577



TYPE 475

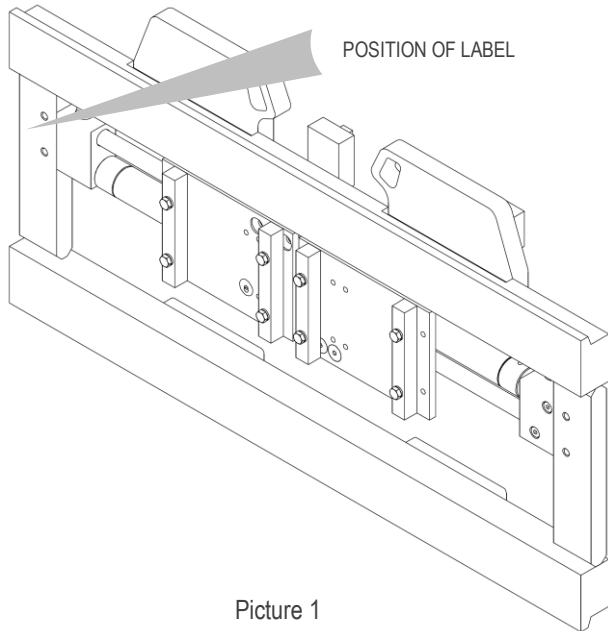


TYPE 476



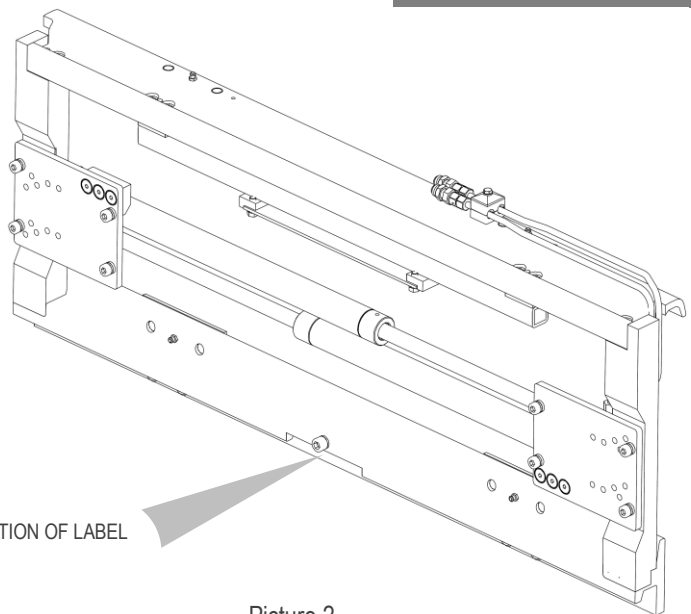
All the A.T.I.B.- FORK POSITIONER TYPE 575 | 577 | 475 | 476 equipment are identified by means of a sticky identification label (Tab. 1) position of identification label on equipment (Picture 1 and Picture 2).

TYPE 575 E 577





Picture 1

TYPE 475 E 476



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				
6. THICKNESS	WARNING: RESPECT THE RATED CAPACITY OF TRUCK AND ATTACHMENT COMBINED			
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. - FORK POSITIONER TYPE 575 | 577 | 475 | 476 were planned and built to enable the distance adjustment between fork centres through two-cylinder hydraulic actioning (moving housing).

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 fork positioners can be divided into two categories, with integral sideshift (577 / 476) or only fork positioner (575 / 475).

The relative adjustment movement is carried out by means of two hydraulic cylinders which act directly on the two plates to which the forks are applied.

The sideshifting movement is done by 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 and ISO	CAPACITY (l/mm)			Max. operating pressure (Bar)
	Min.	Max.	recommended	
575 ALL	2	8	5	110
577 ALL	2/5	8/15	5/10	110
475 ALL	2	8	5	110
476 ISO II	5	15	10	110
476 ISO III	10	20	15	110

Tab. 2

Values in bold refer to sideshift.



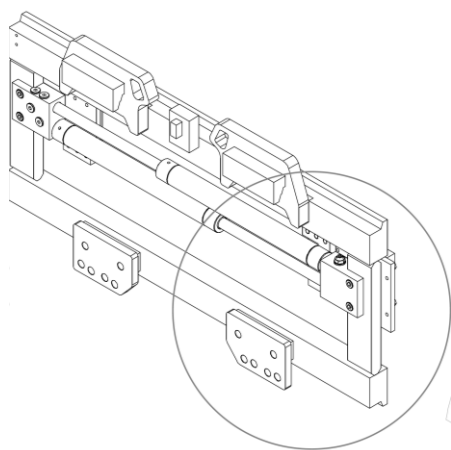
RESPECT THE MAXIMUM WORKING PRESSURES INDICATED

3.1 Installation

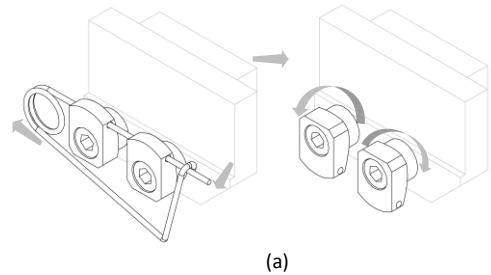
3.1.1 Attachment installation - TYPE 575

TYPE 575

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 a bad condition.
4. Unscrew the lower hooks of equipment (*Picture 3*).

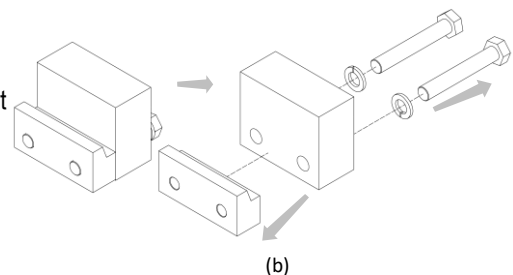


If there are quick releases, simply remove the split pin and rotate them downwards (a).



(a)

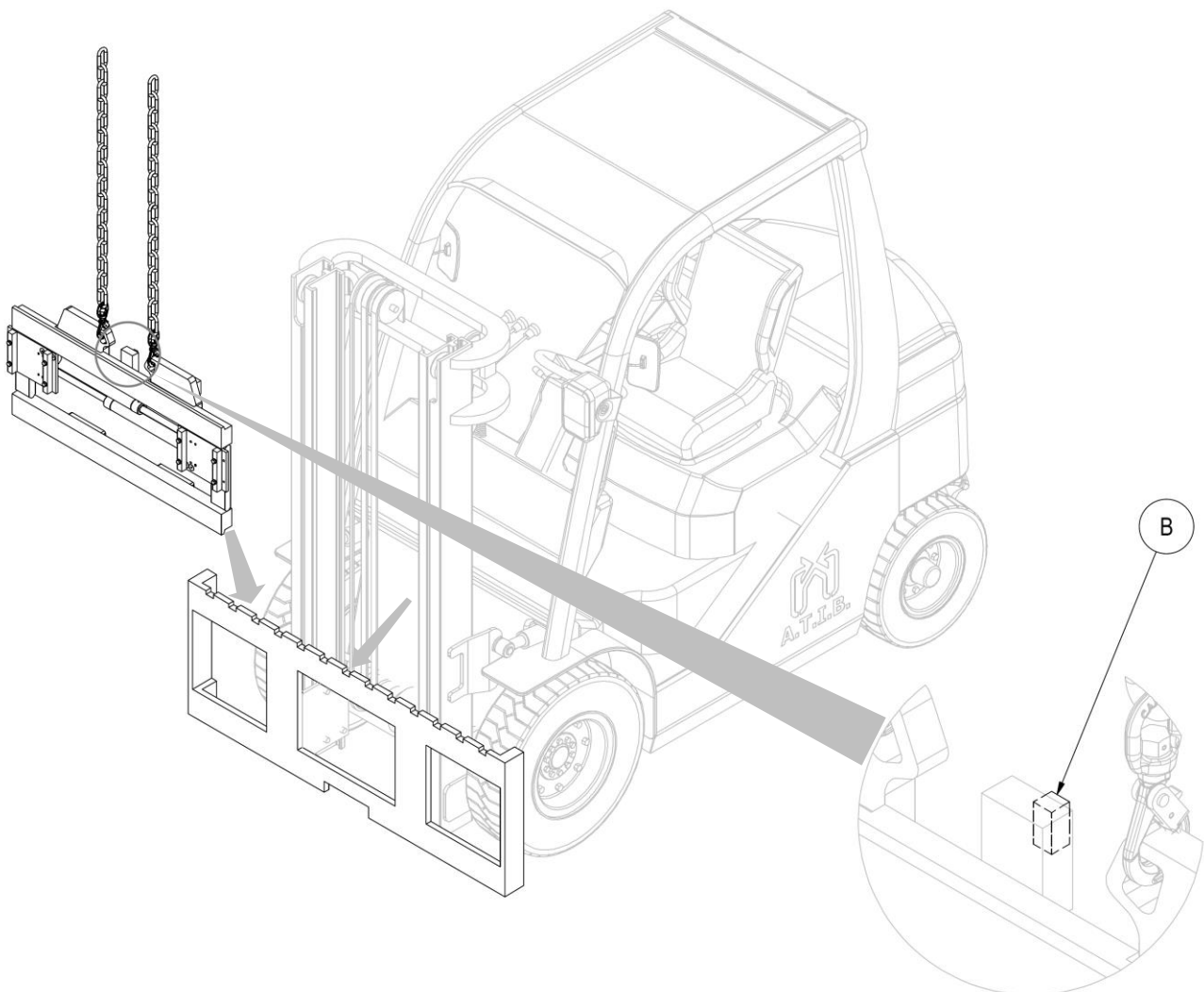
If there are standard hooks, remove the screws, with the relative washers, which support them (b).



(b)

Picture 3

5. 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*).
6. with an overhead crane or with a hoist of sufficient capacity hook the attachment to the fork carriage, placing the centring tooth **B** into the central notch (*Picture 4*).

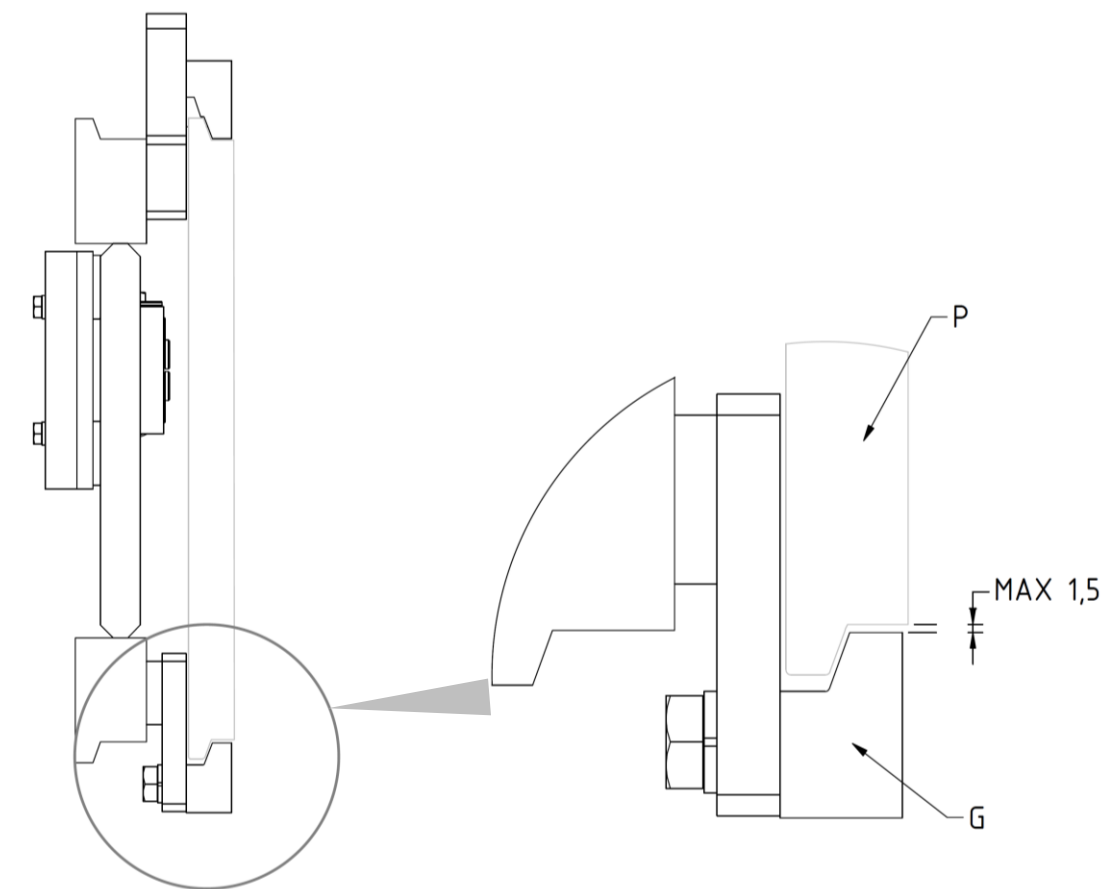


Picture 4

7. 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 5*), reaching to the following torques *Tab. 3*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm
ISO III	M14	140 Nm

Tab. 3



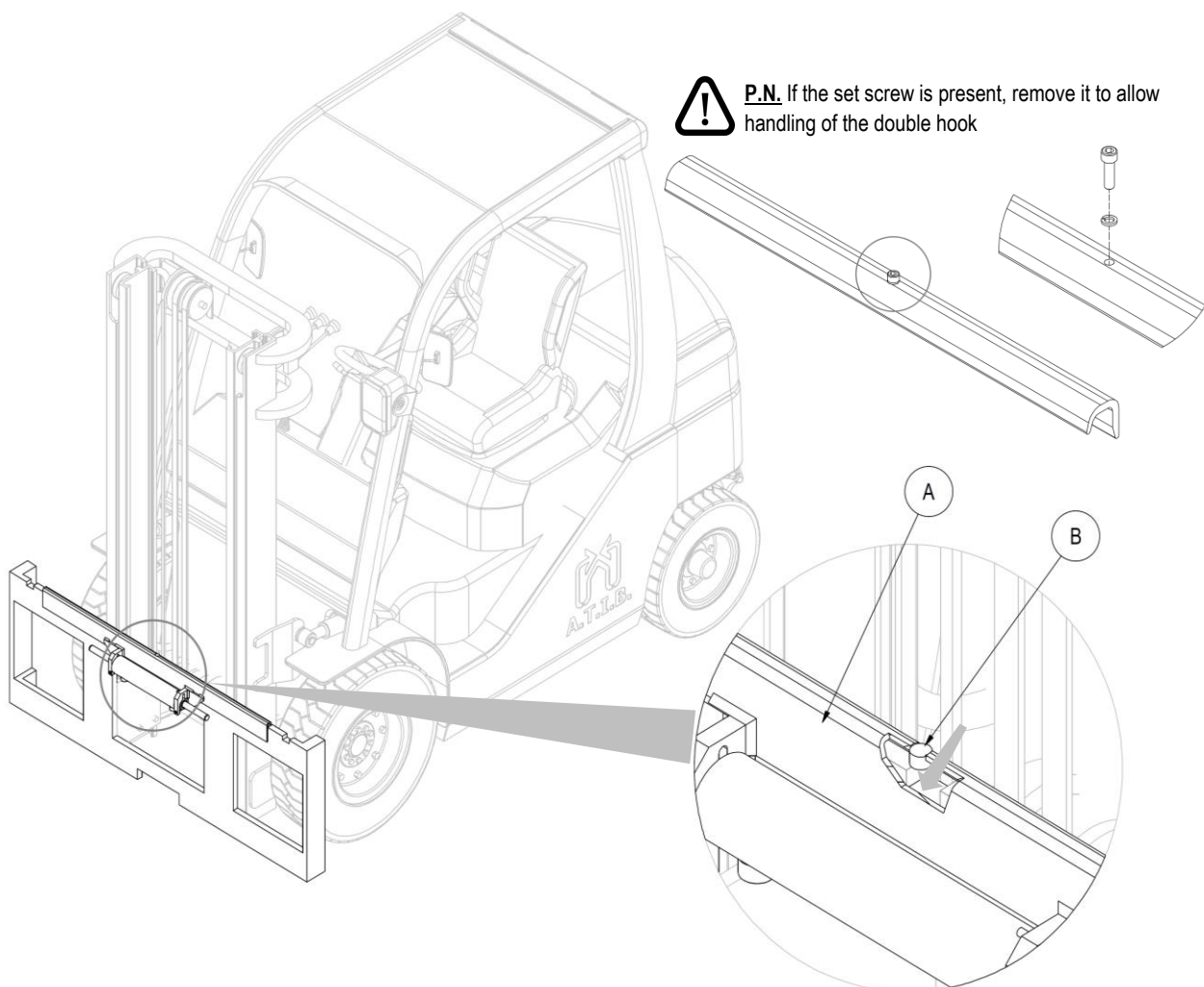
Picture 5

8. Install the forks.
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*).

3.1.2 Attachment installation - TYPE 577

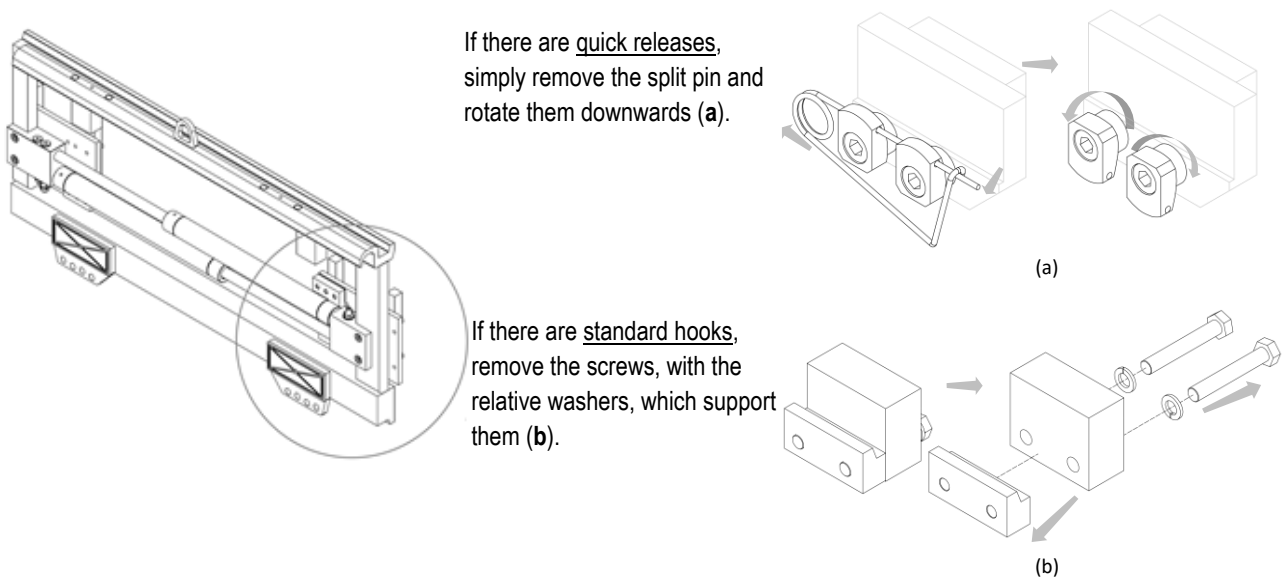
TYPE 577

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 carrier, placing the centring tooth **B** into the central notch (Picture 6).



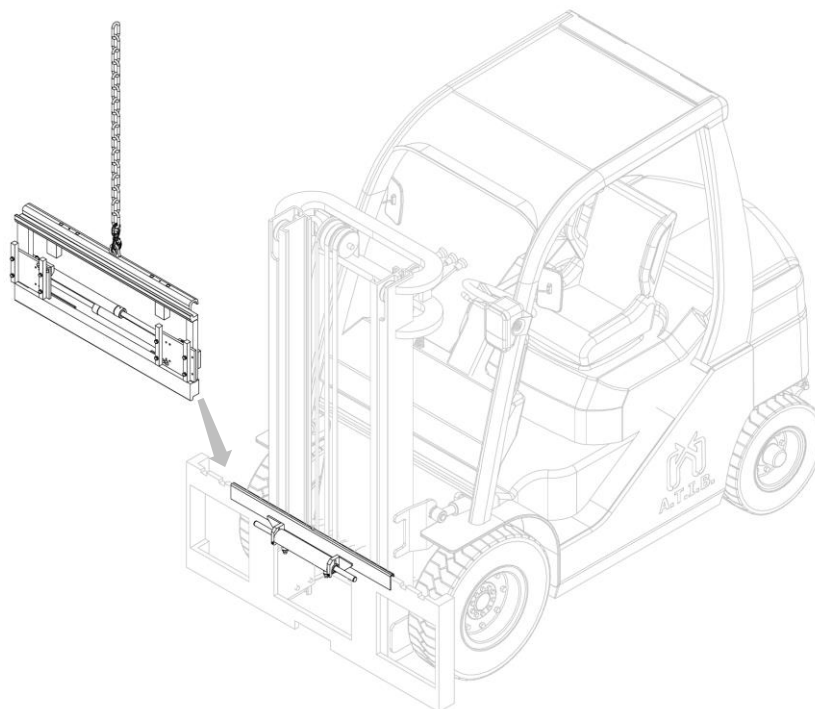
Picture 6

5. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 7*).



Picture 7

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 8*).

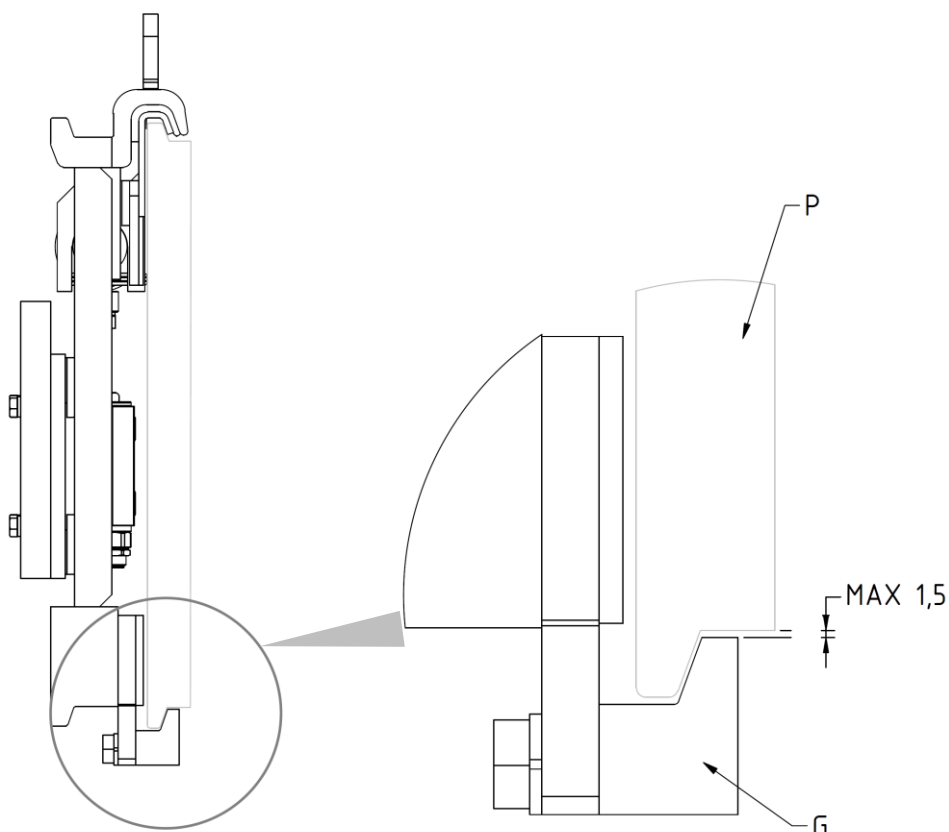


Picture 8

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 9*), reaching to the following torques *Tab. 4*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm
ISO III	M14	140 Nm

Tab. 4



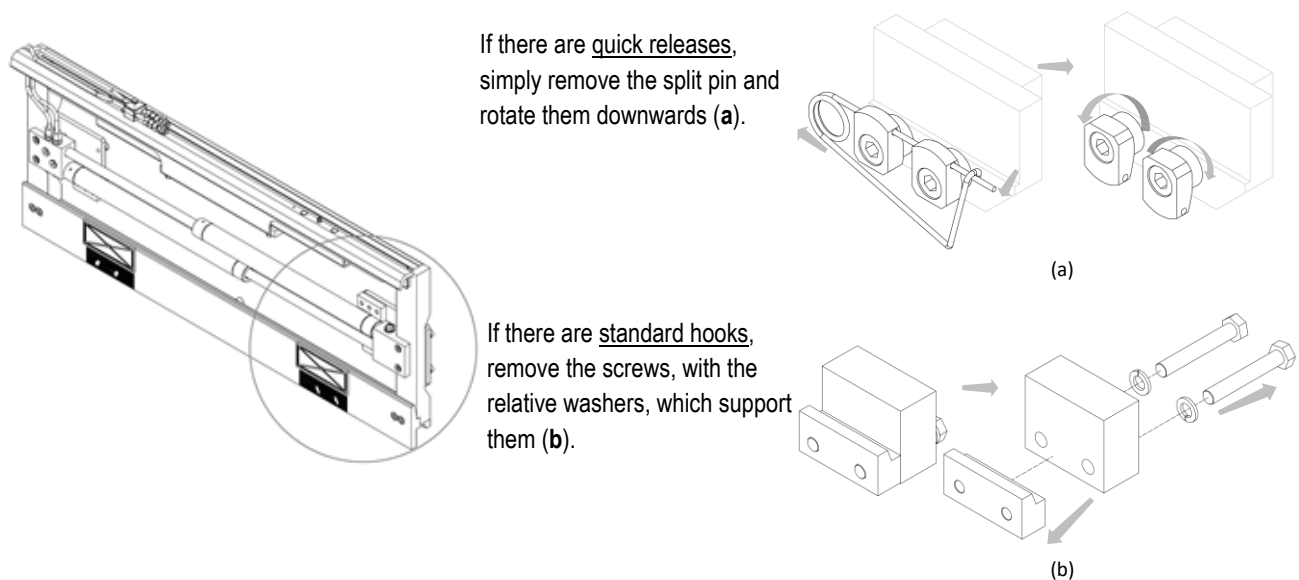
Picture 9

9. Install the forks.
10. Lubricate the contact parts.
11. 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*).

3.1.3 Attachment installation - TYPE 475

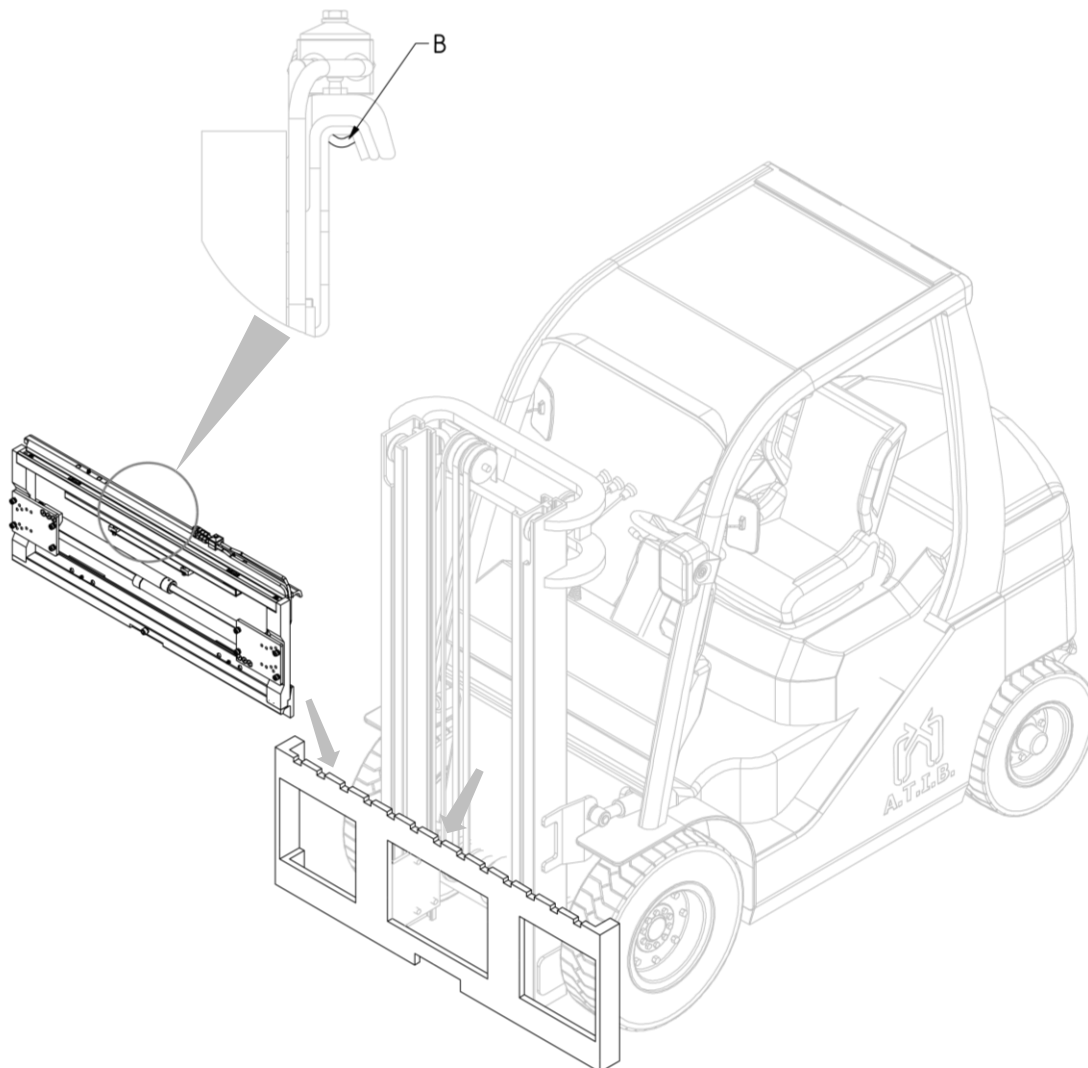
TYPE 475

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. Unscrew the lower hooks of equipment (*Picture 10*)



Picture 10

5. 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*).
6. with an overhead crane or with a hoist of sufficient capacity hook the attachment to the fork carriage, placing the centring tooth **B** into the central notch (*Picture 11*).

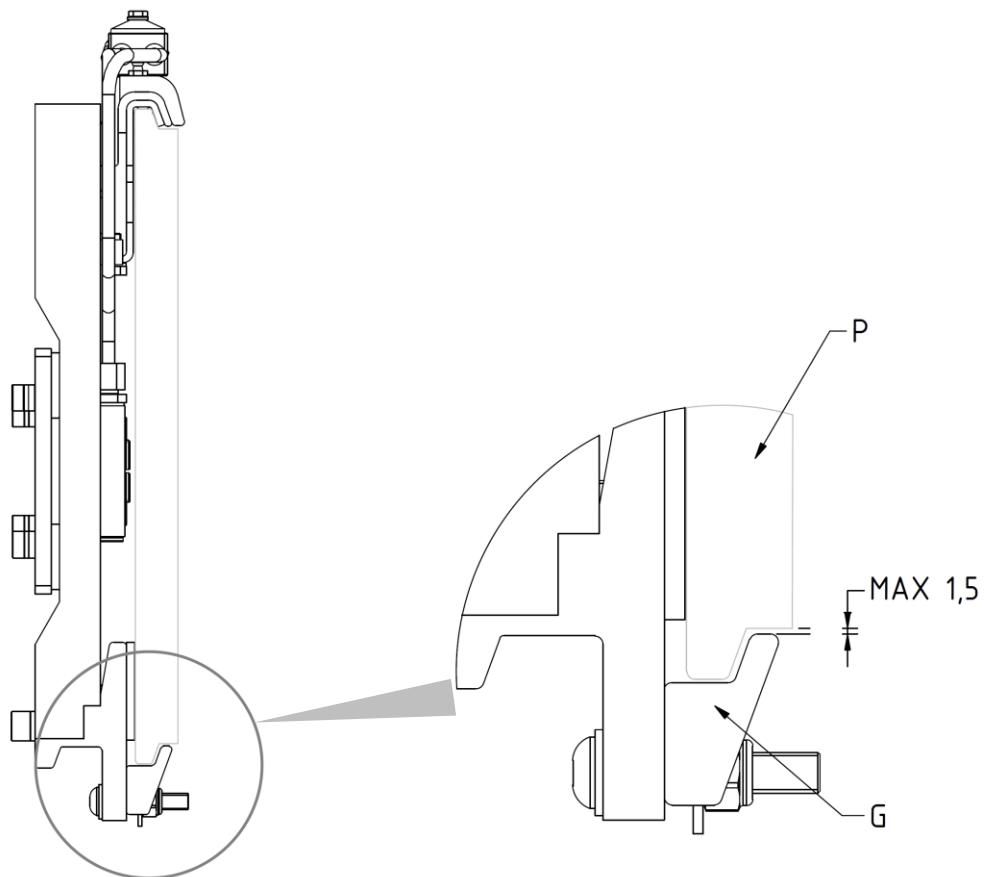


Picture 11

7. 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 12*), reaching to the following torques *Tab. 5*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm
ISO III	M14	140 Nm

Tab. 5



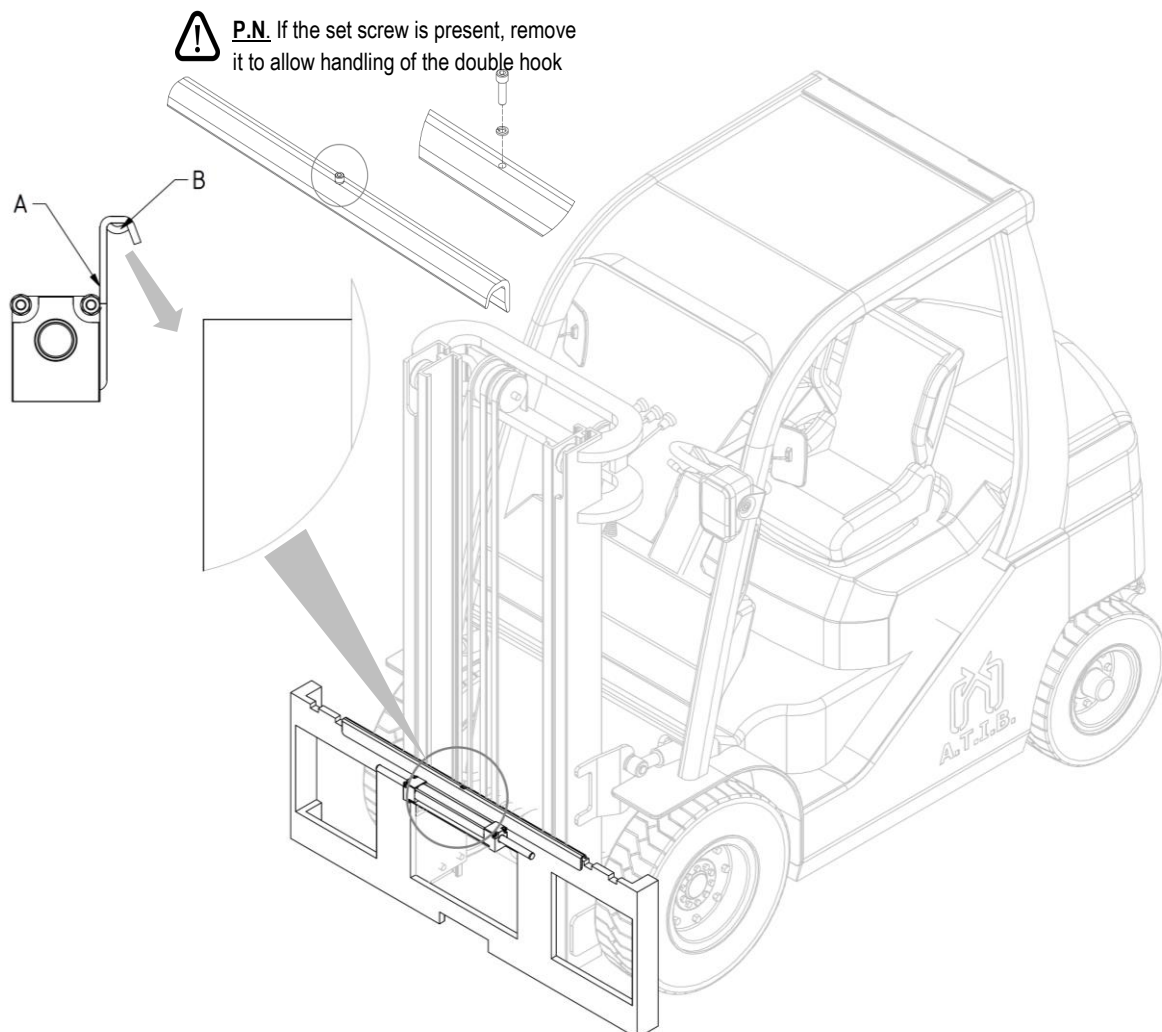
Picture 12

8. Install the forks
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 2 and Tab. 1 pag.6*).

3.1.4 Attachment installation - TYPE 476

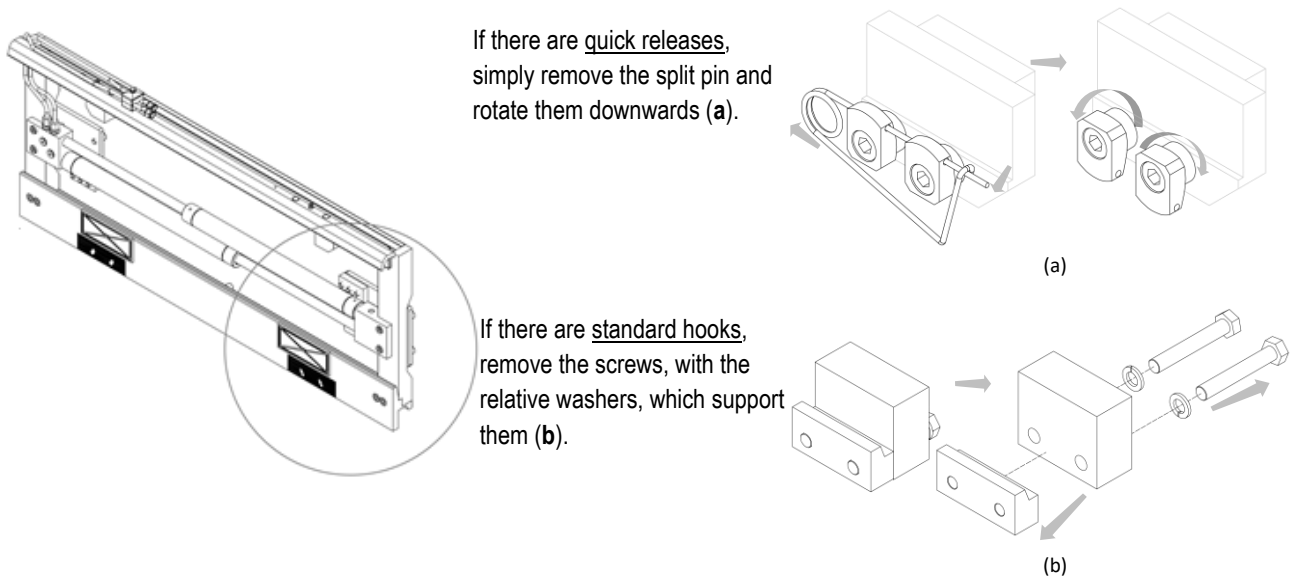
TYPE 476

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 13).

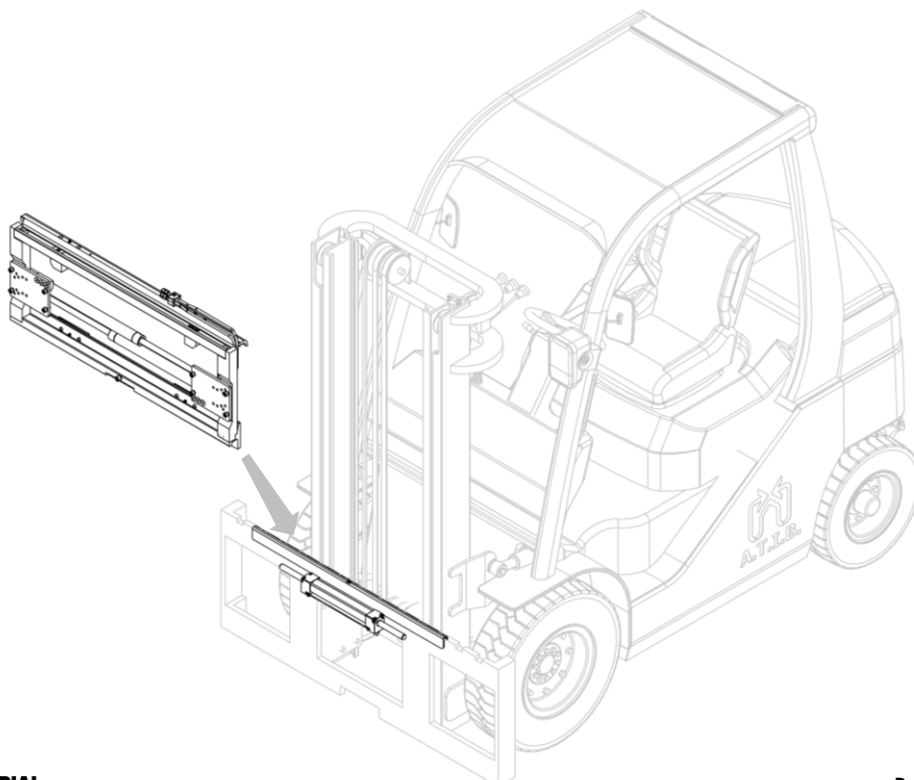


Picture 13

5. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 14*).



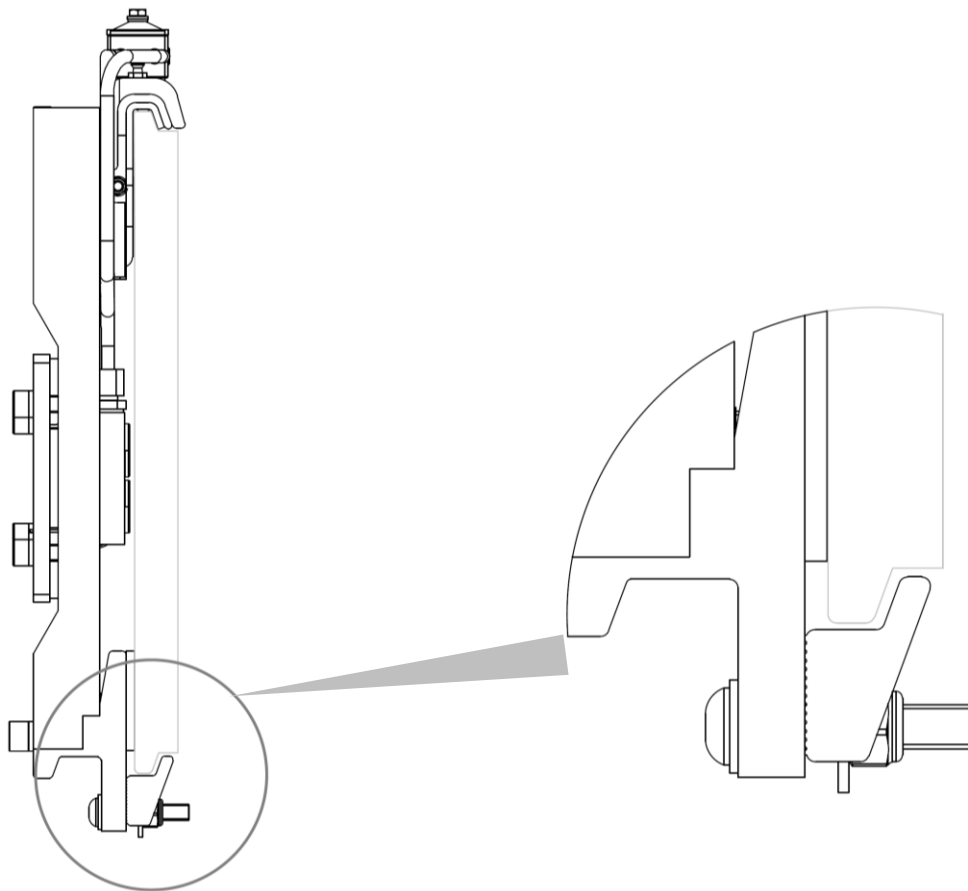
6. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the plate (*Picture 2 and Tab. 1 pag.6*).
7. with an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly (*Picture 15*).



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 16*), reaching to the following torques *Tab. 6*.

ISO 2328	THREAD	TORQUE
ISO II	M12	90 Nm
ISO III	M14	140 Nm

Tab. 6



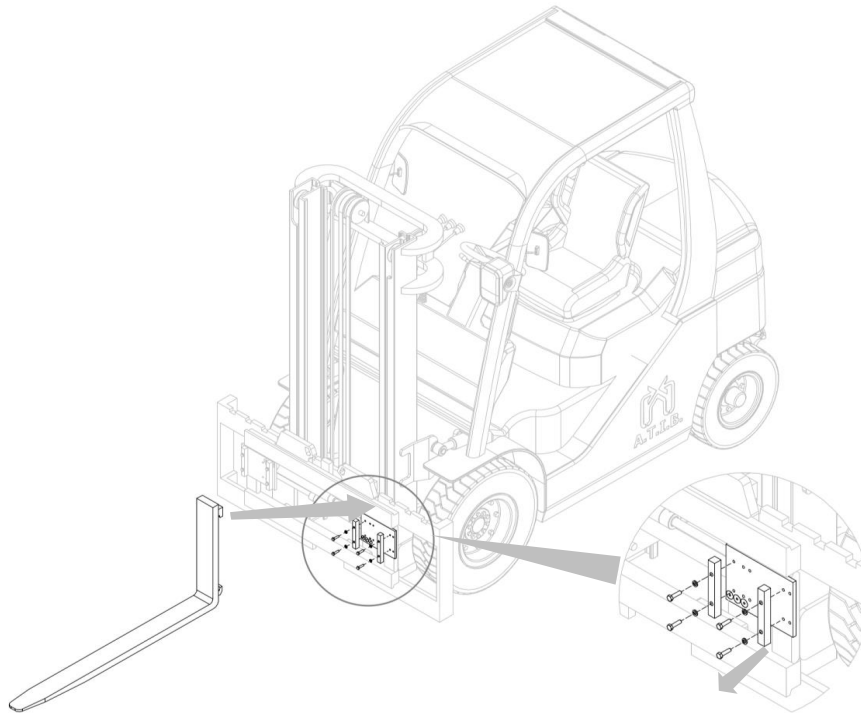
Picture 16

9. Install the forks.
10. Lubricate the contact parts.
11. 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*).

3.2 Fork installation on the attachment

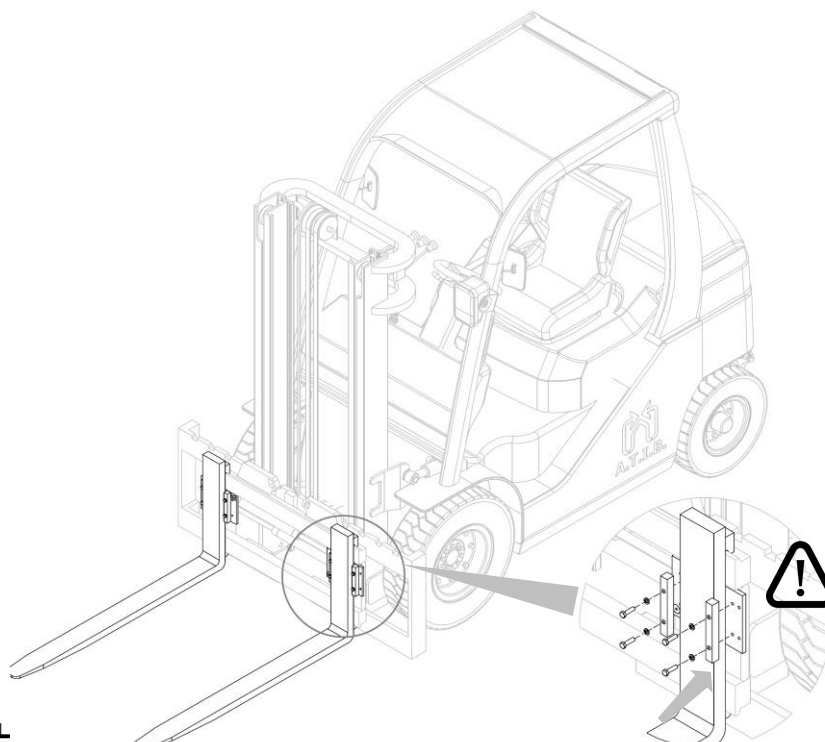
FORK INSTALLATION

1. Apply the forks after unscrew the fork blocks from fork holders (*Picture 17*; in the following figures is shown only attachment type 575, because the fork installation procedure is the same for all types).



Picture 17

2. Apply the forks and screw back the fork blocks (*Picture 18*).

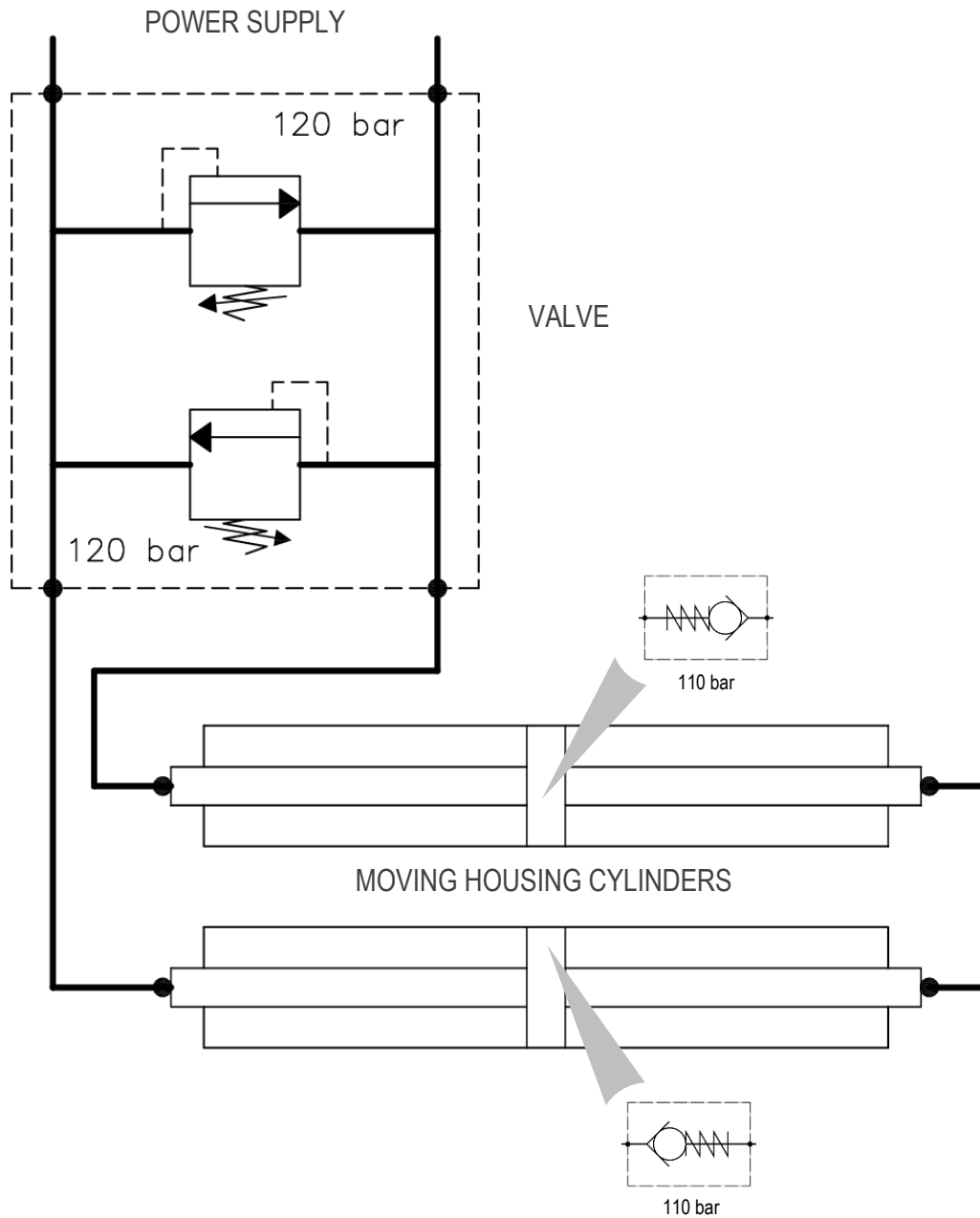


Picture 18

4 HYDRAULIC SYSTEM

4.1 Hydraulic System – TYPE 575

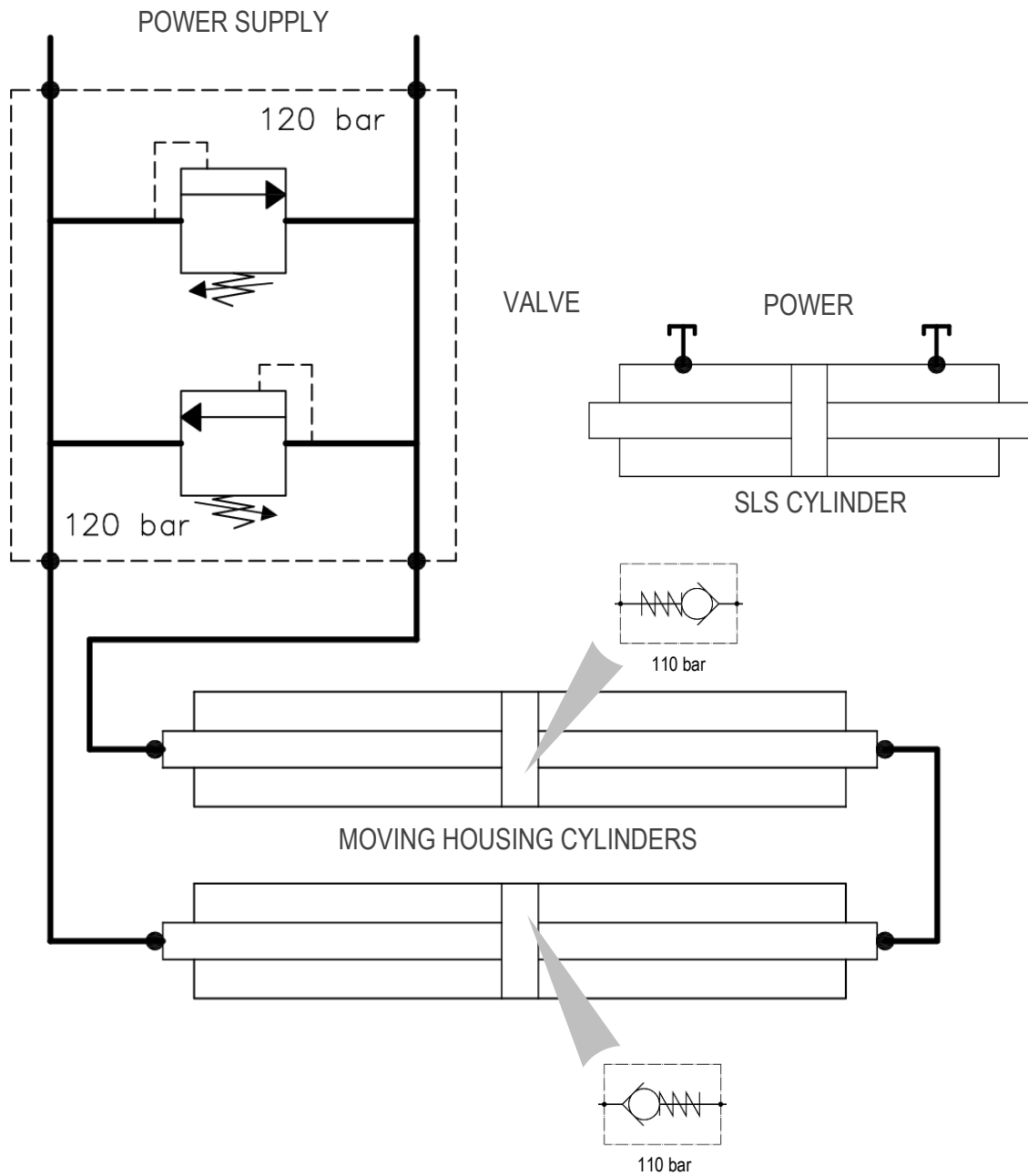
TYPE 575



Picture 19

4.2 Hydraulic System – TYPE 577

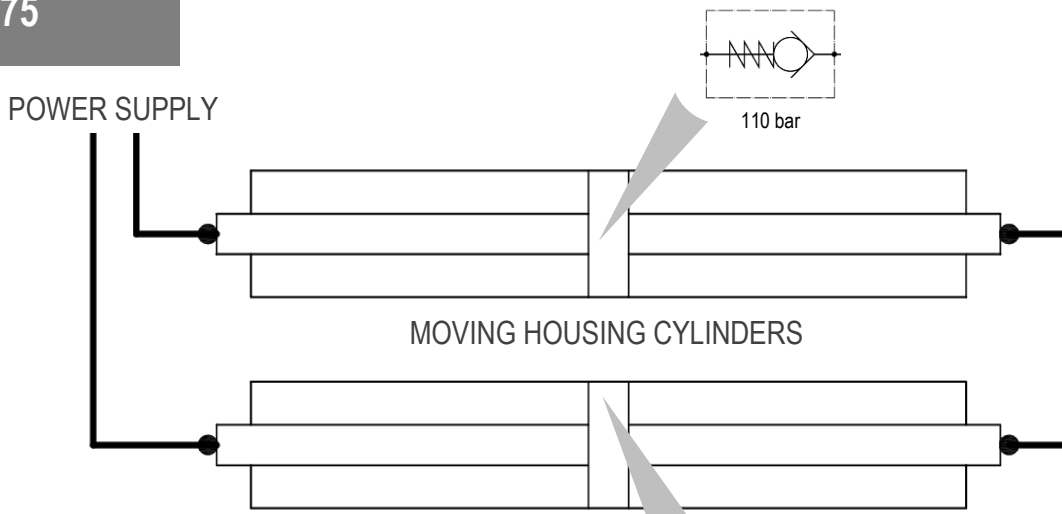
TYPE 577



Picture 20

4.3 Hydraulic System – TYPE 475

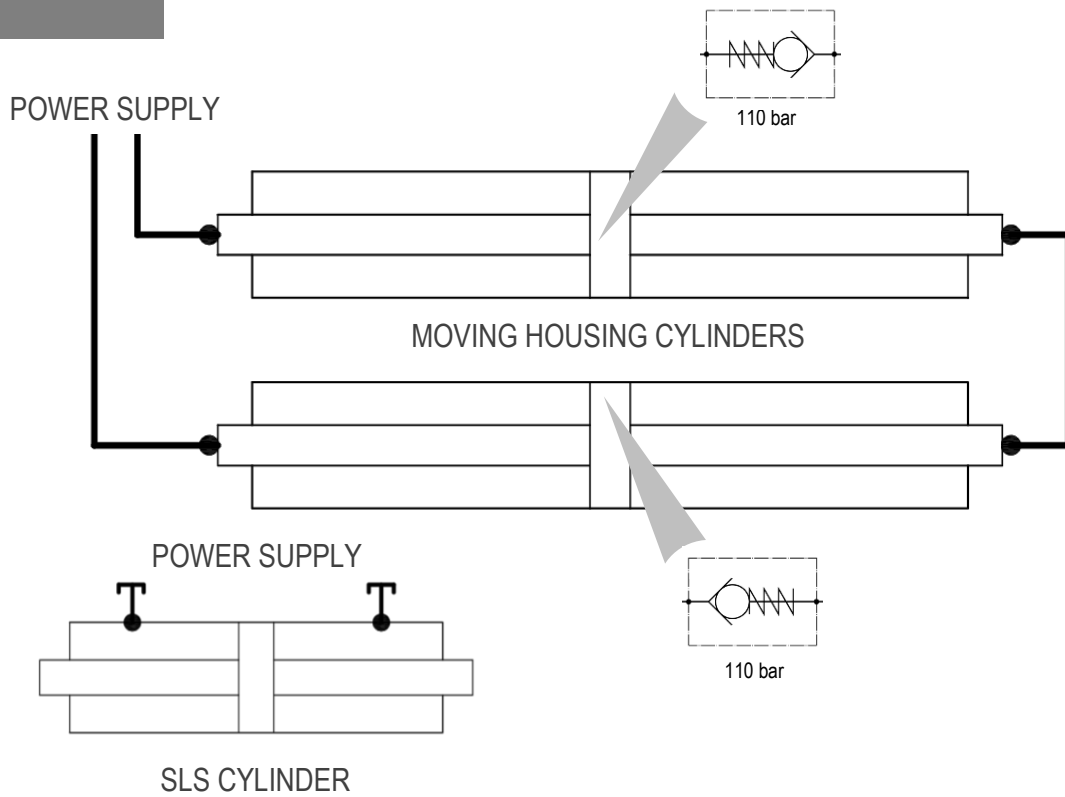
TYPE 475



Picture 21

4.4 Hydraulic System – TYPE 476

TYPE 476



Picture 22

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).

Should the equipment be subject to slight errors in the movement synchronism between the two forks, these movement differences, which will add up in time, will have to be annulled by an operator.

It will be sufficient for the operator to keep one of the two forks at the opening or closing end stroke, for the necessary time it will take for the other fork to recuperate the difference in movement accumulated.

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

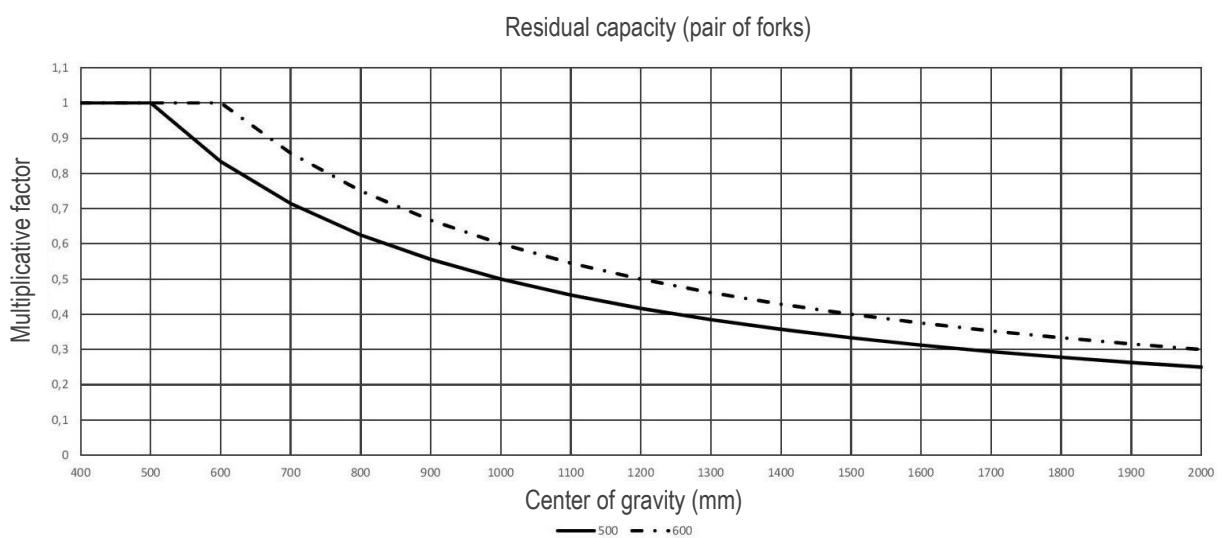
fork you have to reduce the weight of the load.

In this occasion, we suggest to control the chart (*Picture 23*) 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 600 mm.



Picture 23

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



The affordable stroke can compromise the stability of the forklift.



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 /Tab. 4/Tab. 5* and *Tab. 6* respectively on *page 12/15/18* and *21*, 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 5/Picture 9/Picture 12* and *Picture 16* respectively on *page 12/15/18* and *21* and, if necessary, intervene on the tightening of the screws that support them.
4. Clean and lubricate all sliding parts (*Picture 36 e Picture 37 a pag.43*).

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 e 6.2 a pag.29*).

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. 10 a pag.42*.

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 6.3, and Points 6.1 e 6.2 a pag.29*).

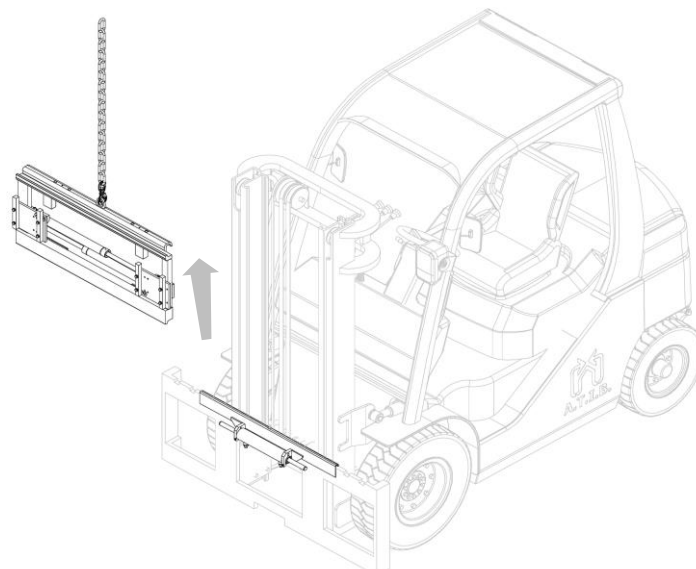
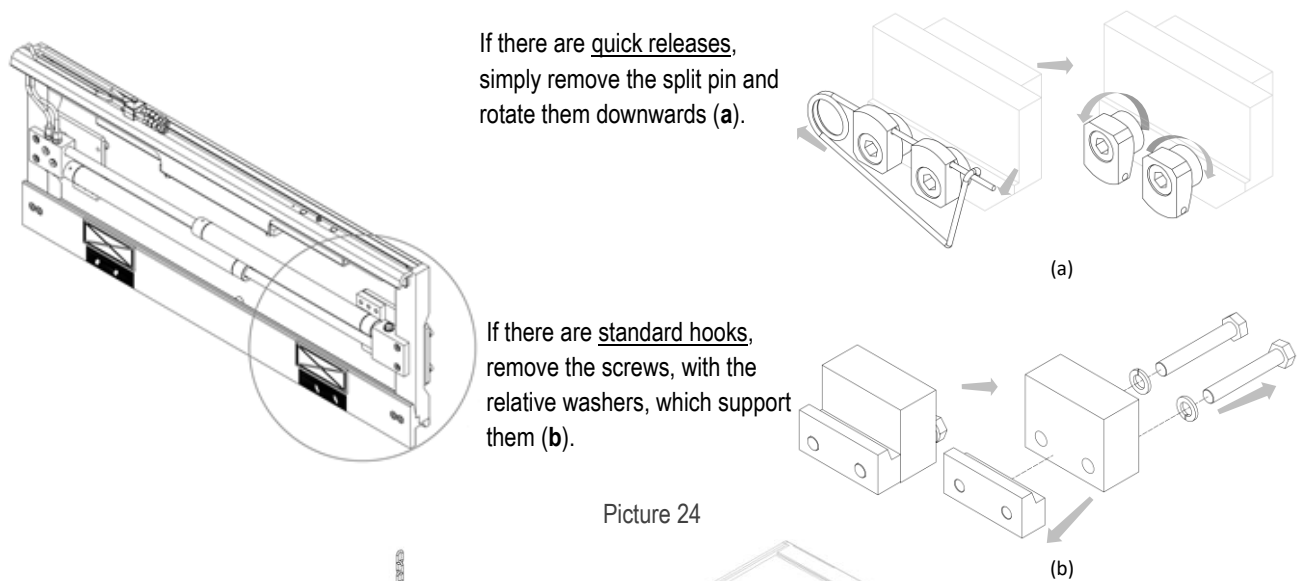
Please Note: Intensify interventions in case of use in particularly severe conditions.

7 DISASSEMBLY PROCEDURE

All maintenance operations must be carried out with the trolley stopped and with the hydraulic circuit not activated and not under pressure, surrounding the entire maintenance area, using the necessary protection 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.

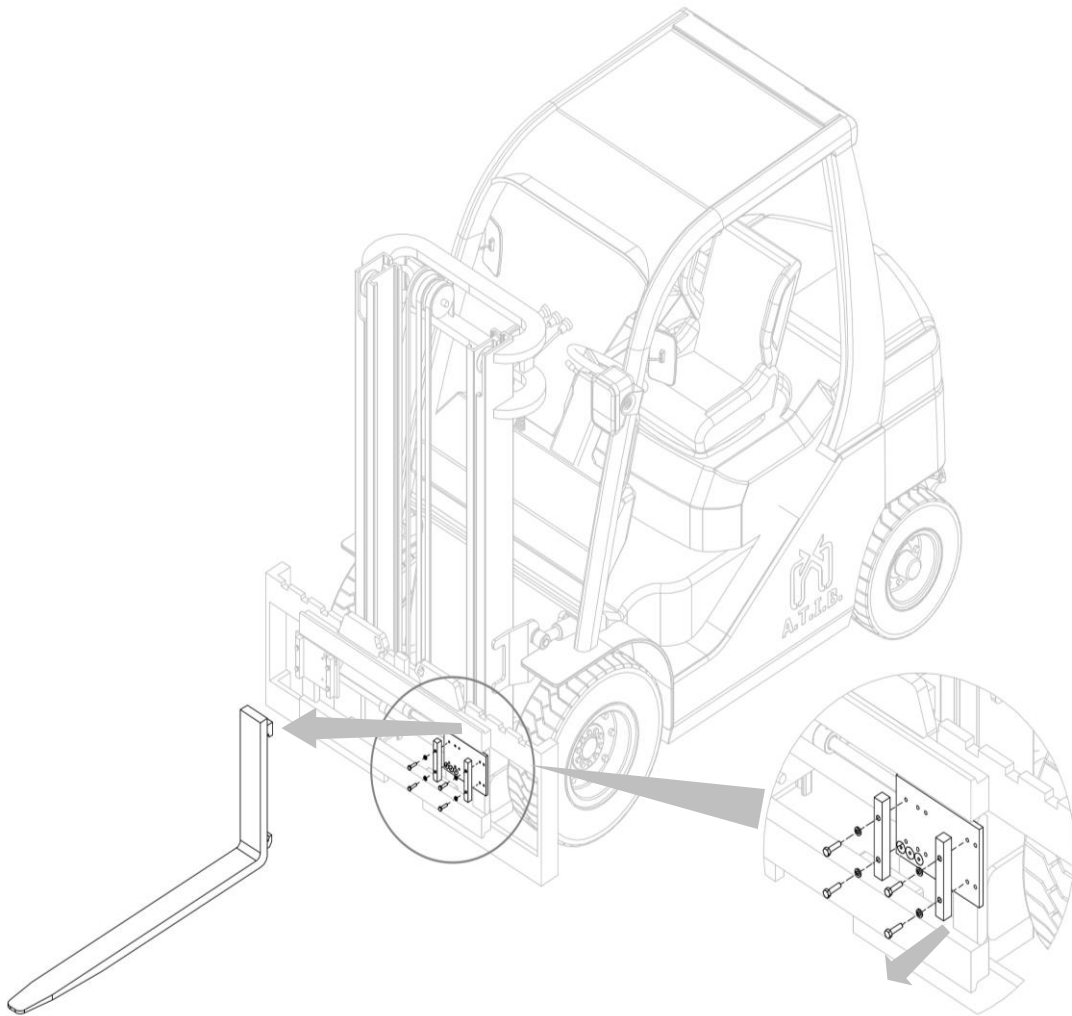
7.1 Disassembly attachment from forklift

1. Relieve the pressure of the hydraulic system.
2. Remove the forks, following the operations indicated in the *forks installation* phase in reverse.
3. Unscrew the lower hooks of equipment (*Picture 24*; in the following figures is shown only attachment type 575, because the disassembly procedure is the same for all 4 types).
4. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the plate.
5. with an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly (*Picture 25*).



7.2 Forks Disassembly

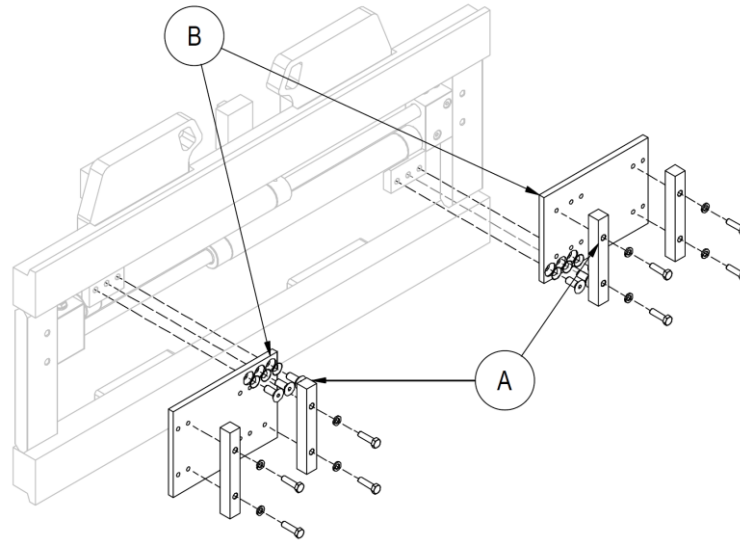
1. Discharge the pressure of the hydraulic system and disconnect the pipes.
2. One at a time, remove the forks after removing the fork stops from the plates (see *Picture 26*).



Picture 26

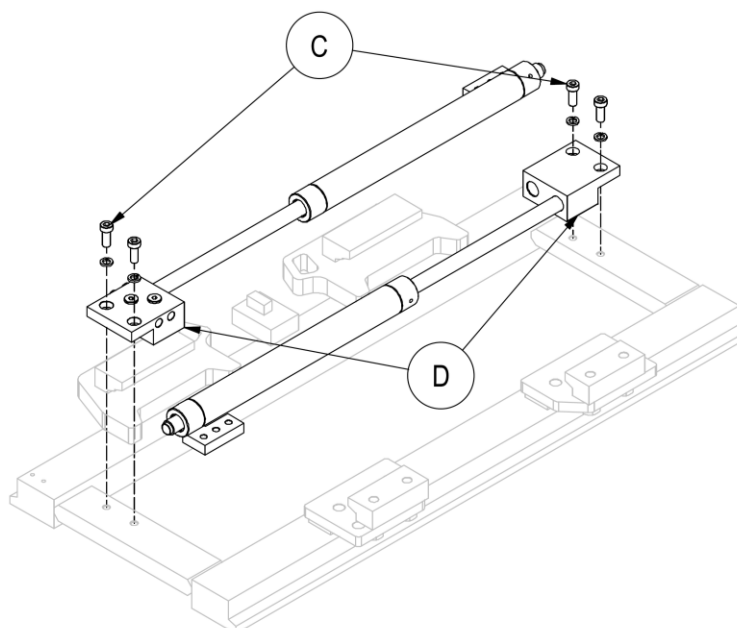
7.3 Moving housing cylinder removal

1. Relieve the pressure of the hydraulic system and disconnect the pipes.
2. After removing the forks (*Point 7.2 pag.32*), remove the fork blocks **A** and subsequently the fork holders **B** (*Picture 27*; in the following figures is shown only attachment type 575, because the cylinder removal procedure is the same for all 4 types).



Picture 27

3. Remove the lower hooks of equipment (*Picture 3 pag.10*).
4. For handling, use belts or chains appropriately sized for the weight of the equipment, with an overhead crane or with a hoist of sufficient capacity hook the attachment and remove it from fork carriage (*Picture 25 pag.31*).
5. Unscrew the screws **C** and remove the cylinders from their homes **D** (*Picture 28*).

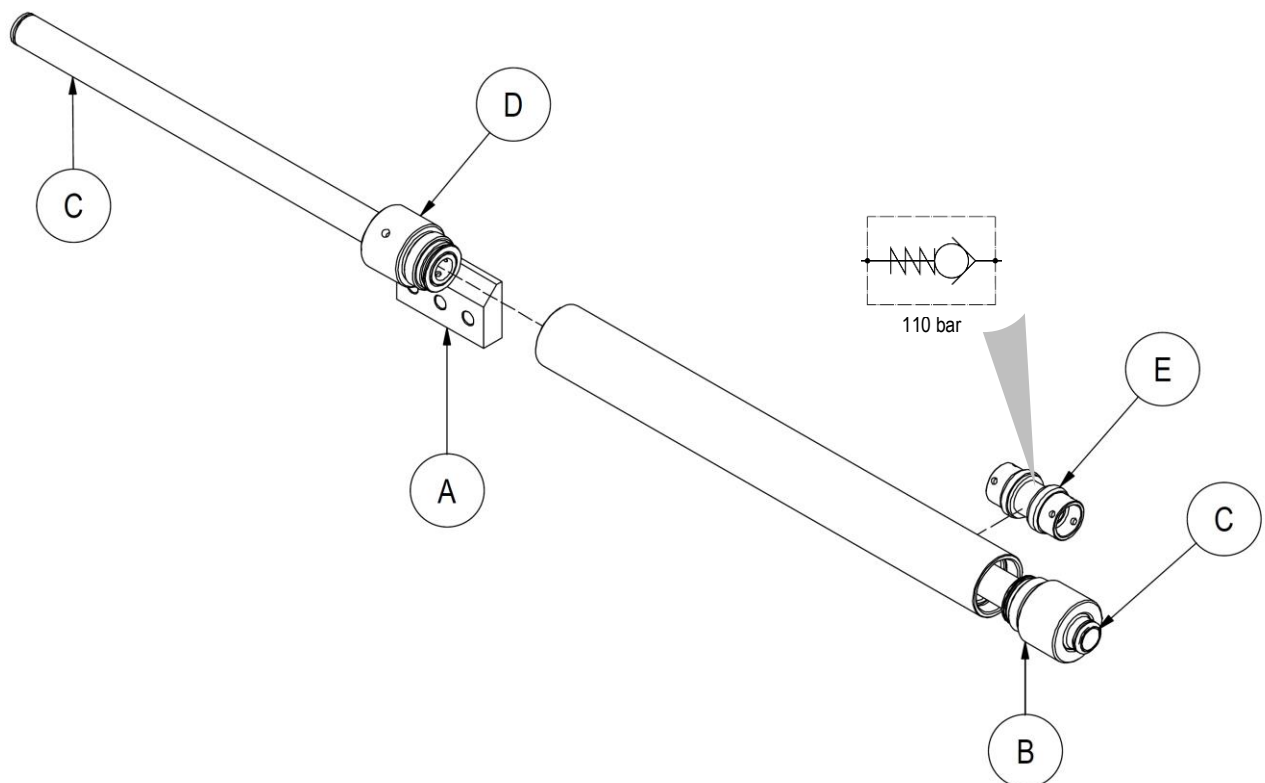


Picture 28

7.3.1 Cylinder disassembly

If it is necessary to replace the entire cylinder, reassemble everything following the instructions listed in the previous point in reverse, if you also need to replace some cylinder component, proceed as indicated below:

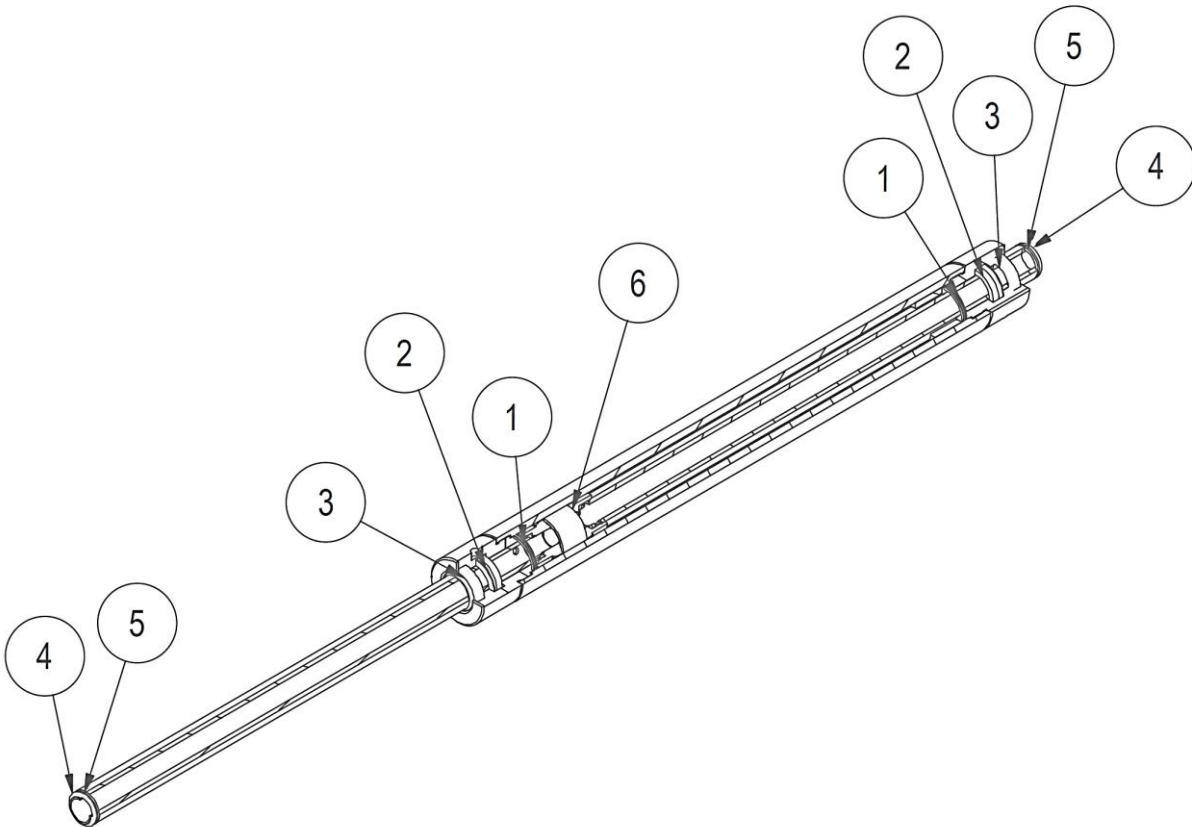
1. Clamp the saucer in a vice **A** (Picture 29).
2. Unscrew cap **B** with a sector wrench 35-50. To remove the cap from the stem, remove it from the end **C** (Picture 29).
3. Clamp the cylinder in a vice with soft jaws (taking care not to deform the cylinder housing) and with a sector wrench 35-50 unscrew cap **D**. In case of difficulty, use a rubber hammer on the saucer **A** (Picture 29).
4. To remove the inner valve **E**, use a simple stem to push it out. Pay attention to the direction of the valve for subsequent reassembly (Picture 29).



Picture 29

7.3.2 Replacement of cylinder seal kits

For replacing the internal seals of the caps (rod seal and scraper ring), be careful not to damage the insertion seat. Use a flat head screwdriver working from the outside (near the edge C, *Picture 29*)



Picture 30

ITEM	Q. TÀ	DESCRIZIONE	DESCRIPTION
1	2	Guarnizione	Seal
2	2	Guarnizione	Seal
3	2	Raschiatore	Scraper ring
4	2	O-Ring	O-Ring
5	2	Guarnizione	Seal
6	1	Guarnizione	Seal

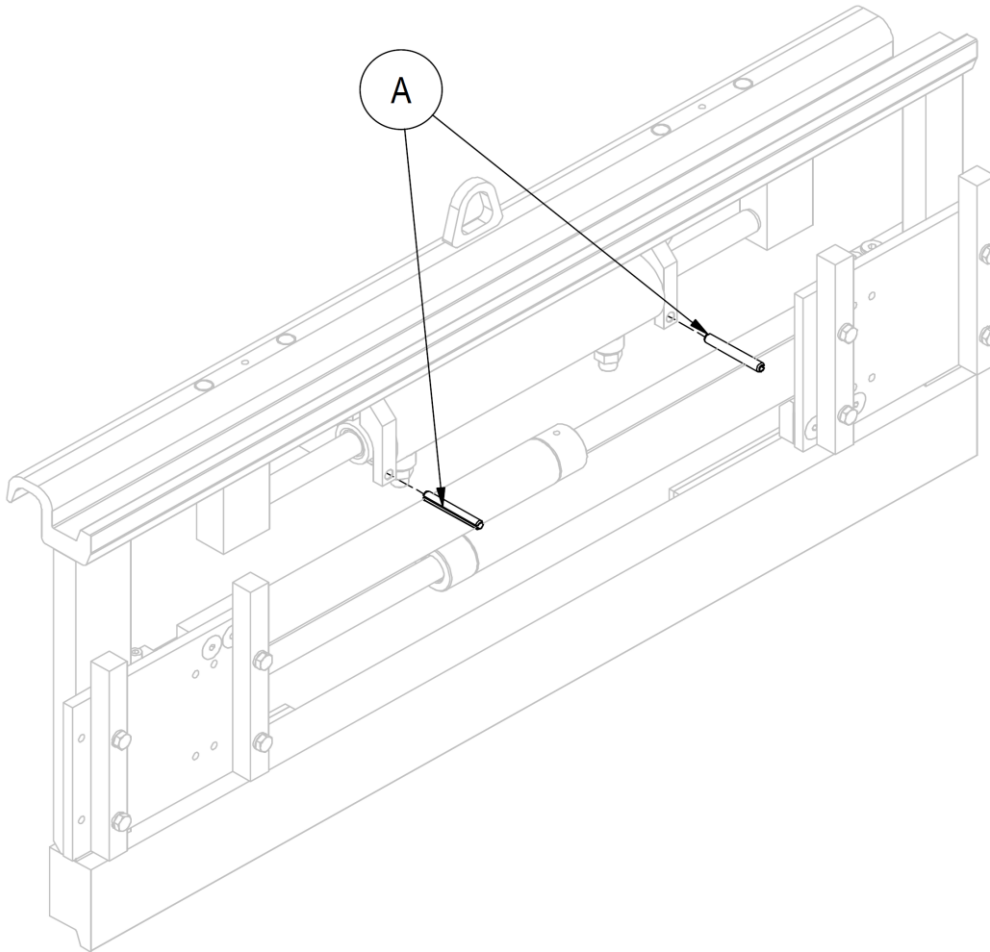
Tab. 7

7.3.3 Cylinder refitting

1. Refer to *Picture 29*.
2. Insert the valve **E** inside the cylinder, paying attention to the direction.
3. Bring the caps to about half of the stems by inserting them from above (end **C**) to avoid damaging the seals and insert the valve in the middle of the cylinder.
4. Insert the plug (with its stem inserted) **D** by applying a medium strength thread locker (type LOXEAL 5503).
5. Screw cap **B** (with its stem).

7.4 SLS Cylinder Removal – TYPE 577

1. Open the fork dragging cylinders in order to gain access to the cylinder of semi-integral sideshift.
2. Relieve the pressure of the hydraulic system and disconnect the pipes.
3. Remove the elastic pins **A** and slide the cylinder out of its seat (*Picture 31*).



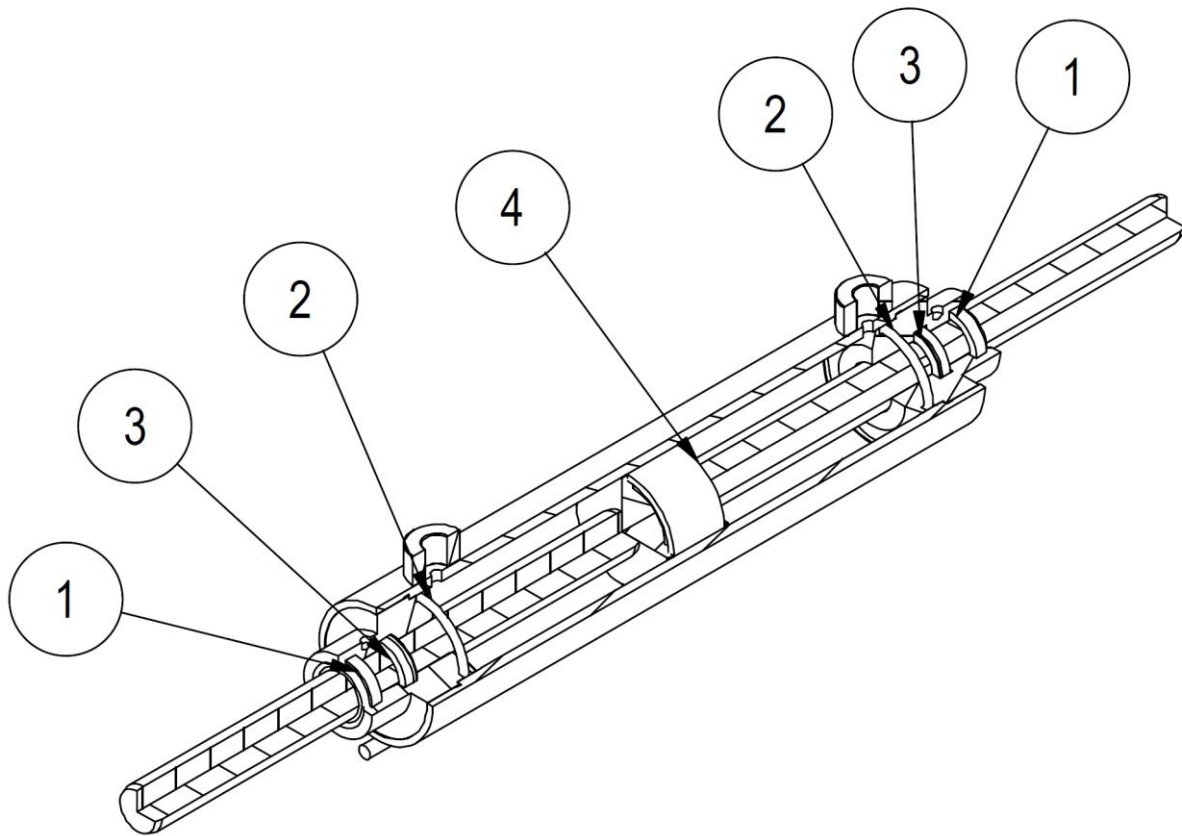
Picture 31

7.4.1 Cylinder disassembly

If it is necessary to replace the entire cylinder, reassemble everything by following the instructions listed in the previous point backwards, if you also need to replace some cylinder components, proceed as indicated below:

1. Clamp the cylinder in a vice with rubber jaws, taking care not to deform the housing;
2. with a sector wrench, unscrew one of the 2 caps and extract the rod. Then remove the other cap.

7.4.2 Replacement of cylinders seal kits



picture 32

ITEM	Q. TÀ	DESCRIZIONE	DESCRIPTION
1	2	Raschiatore	Scraper ring
2	2	O-Ring	O-Ring
3	2	Guarnizione	Seal
4	1	Guarnizione	Seal

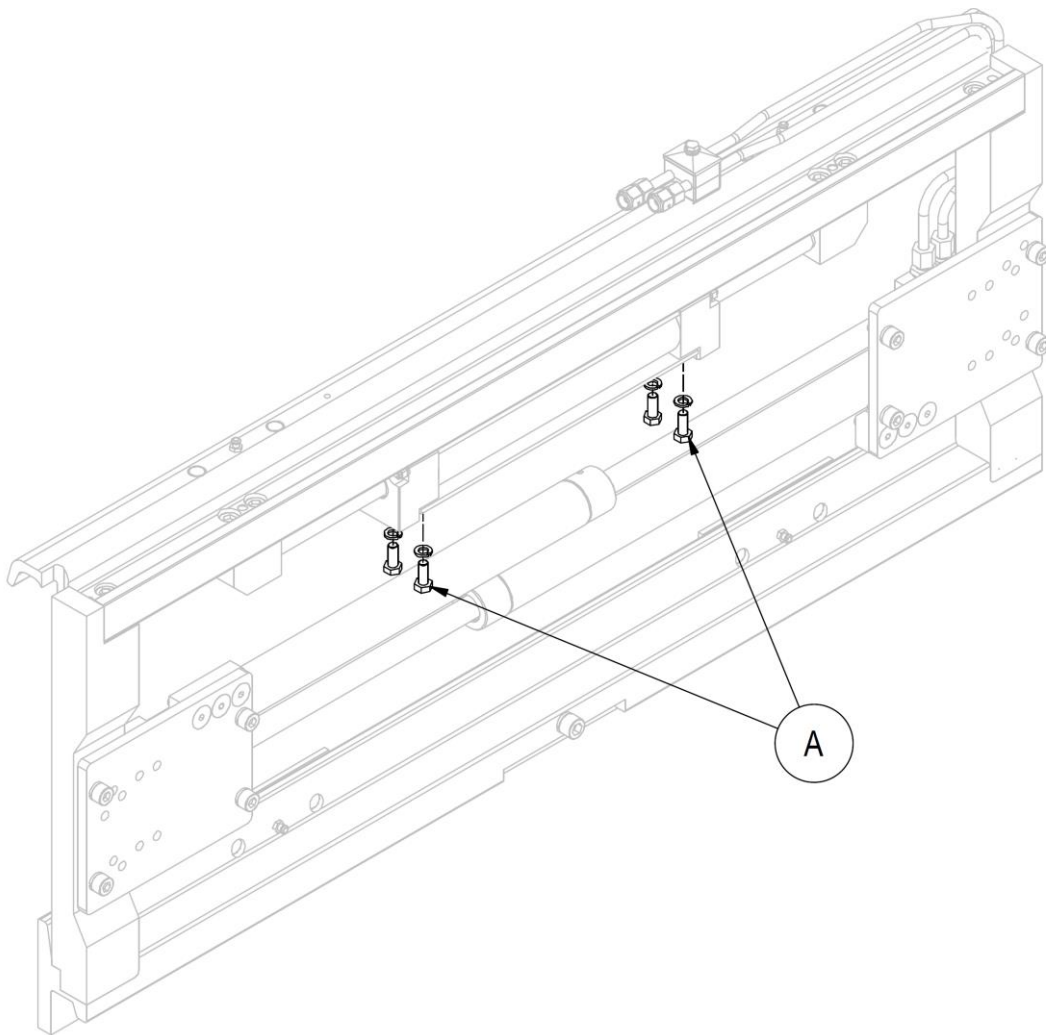
Tab. 8

7.4.3 Cylinder refitting

After replacing the necessary components, follow the steps in step backwards 7.3 and 7.3.1 pag.37.

7.5 SLS Cylinder Removal – TYPE 476

1. Open the fork dragging cylinders so that you can access the cylinder of semi-integral sideshift.
2. Relieve the pressure of the hydraulic system and disconnect the pipes.
3. Unscrew the screws **A** and remove the cylinder from its home (*Picture 33*).

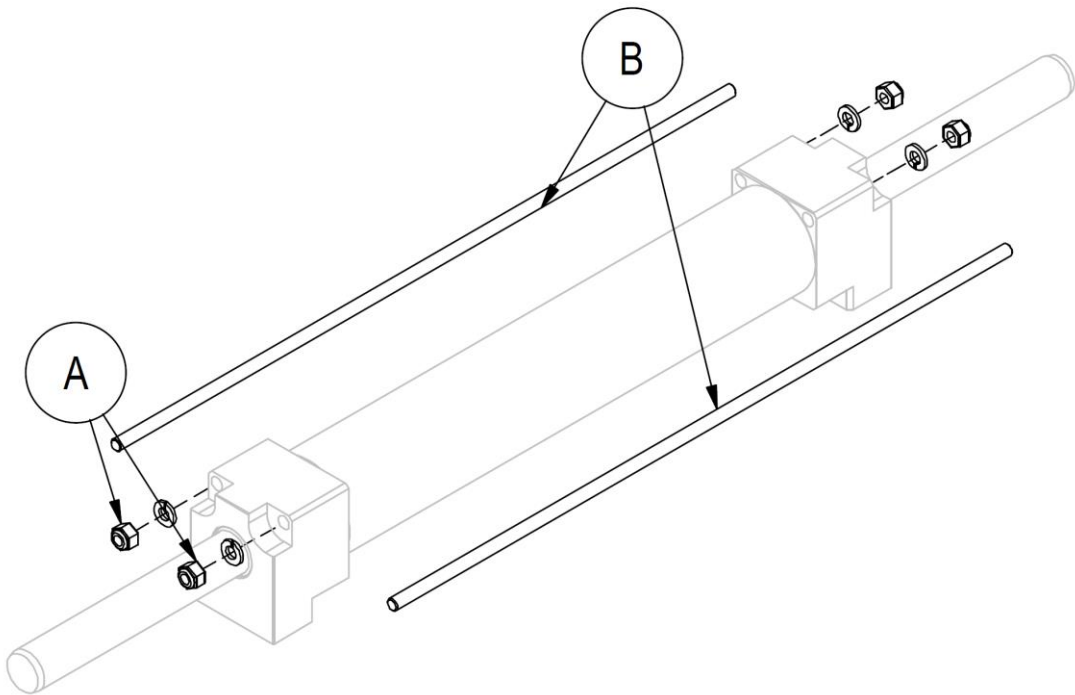


Picture 33

7.5.1 Cylinder disassembly

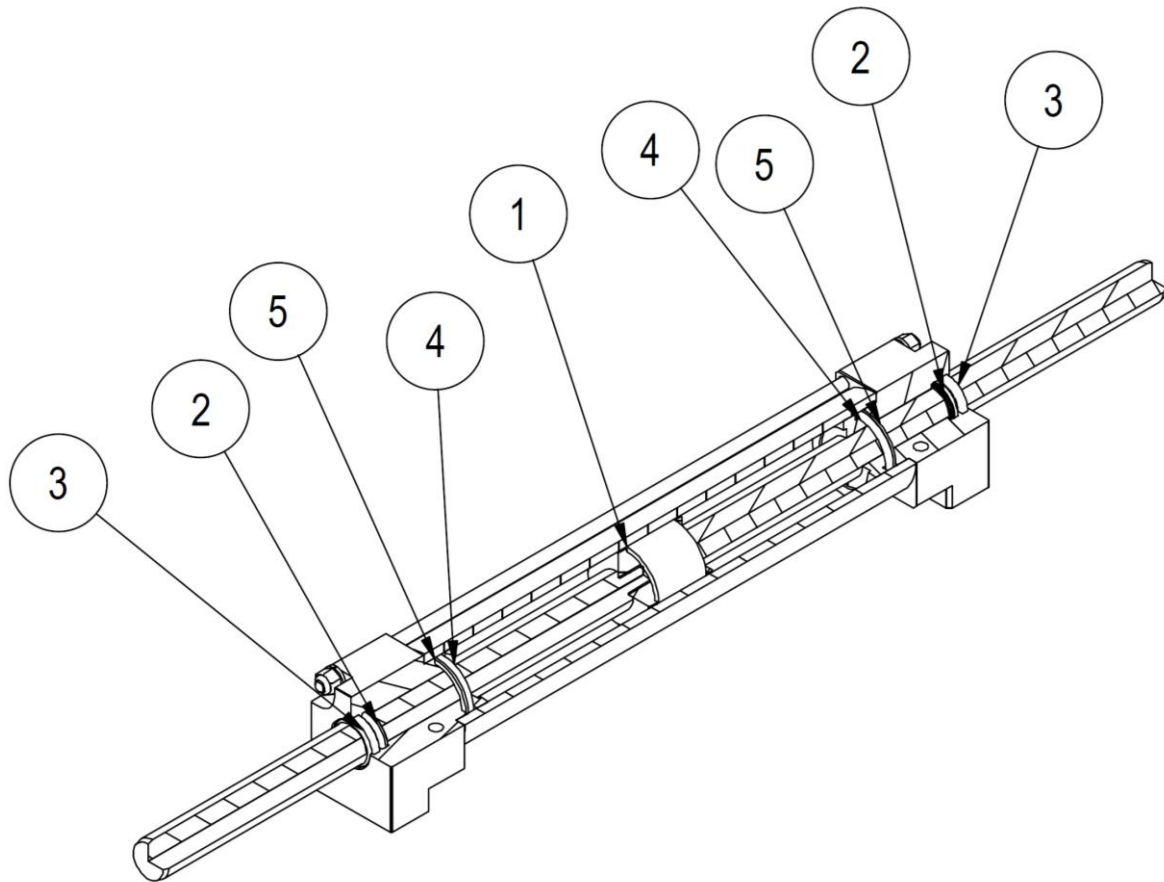
If it is necessary to replace the entire cylinder, reassemble everything by following the instructions listed in the previous point backwards, if you also need to replace some cylinder components, proceed as indicated below:

1. Remove the nuts **A** from one end of the cylinder and remove the tie rods **B** (Picture 34).
2. Remove the 2 caps.



Picture 34

7.5.2 Replacement of cylinder seal kits



Picture 35

ITEM	Q.TÀ	DESCRIZIONE	DESCRIPTION
1	2	Raschiatore	Scraper ring
2	2	O-Ring	O-Ring
3	2	Guarnizione	Seal
4	1	Guarnizione	Seal

Tab. 9

7.5.3 Cylinder refitting

After replacing the necessary components, follow the steps in step backwards points 7.4 and 7.4.1 pag.39 e 40.

8 BREAKDOWNS AND SOLUTIONS

8.1 Breakdowns and solutions

FAILURE	CAUSE	SOLUTION
Insufficient strength	Too low setting of the maximum pressure valve	Increase the pressure without exceeding the maximum limit
	Insufficient pressure	Contact the forklift manufacturer
	Worn Pump	Replace
	worn cylinder seals	Replace
	Lack of oil in the tank	Top up
Loss of pressure	leakage of oil from the slam-shut valve	Disassemble and clean; if necessary, replace them
	leakage of oil from the pipes and joints	Tighten the joints or replace them
	leakage of oil from the cylinders	Replace seal kits or, if it is necessary, the cylinders
	Loss load while sideshifting	Lower the side shift pressure
	Loss load	Verify the blades cambering's
Slow opening and closing	Low oil flow	Check the tank level and the pump
		Bottlenecks in the system: search and delete them
	Insufficient pressure	Set the maximum pressure valve
	Mechanical deformations of some parts	Repair or replace
	worn cylinder seals	Replace
	Lack of oil in the tank	Top up
Irregular side shift	Presence of air in the hydraulic system	bleed the hydraulic system
	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

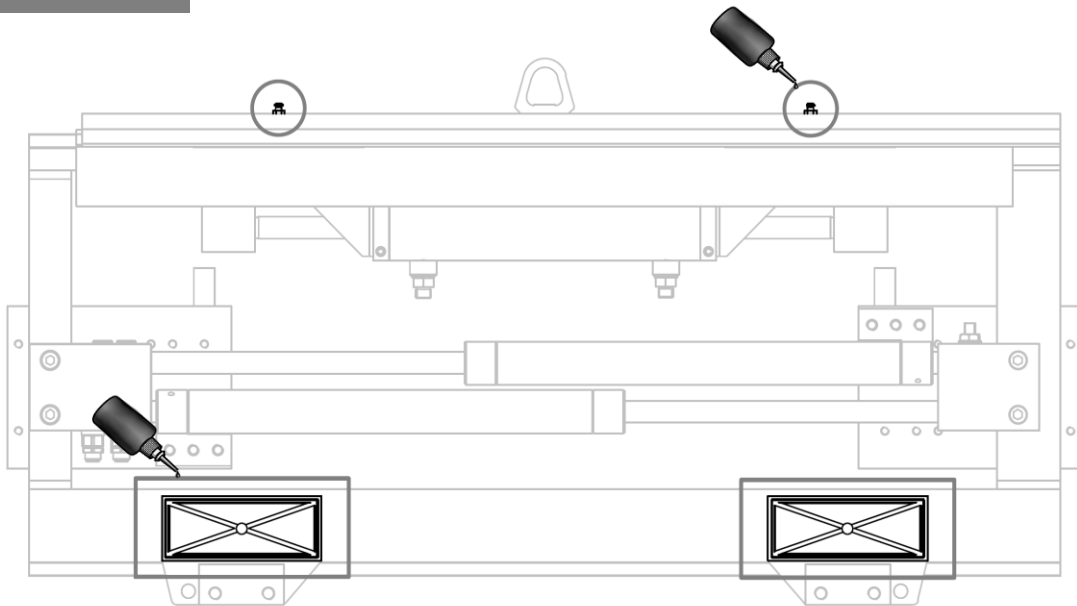
Tab. 10

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

8.2 Lubrication

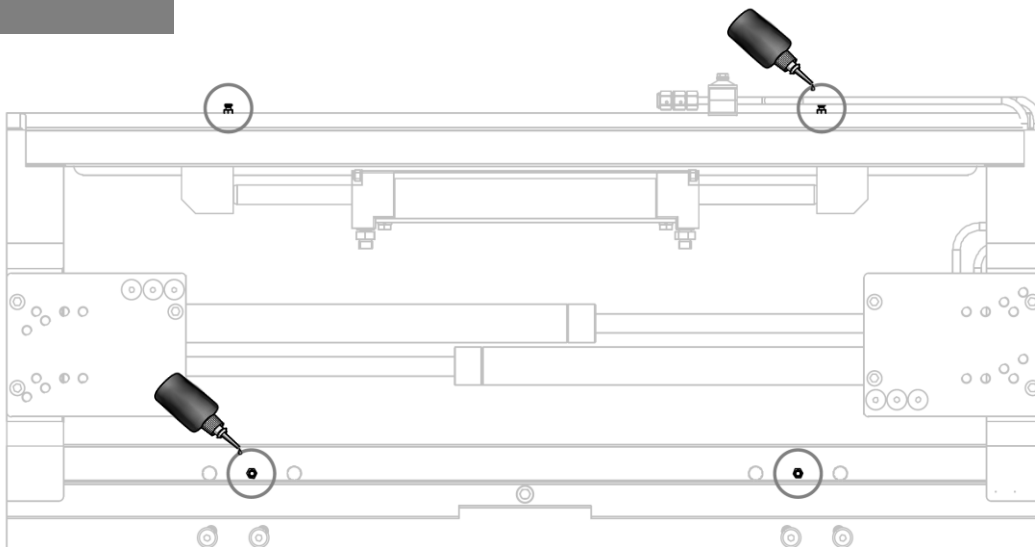
1. Lubricate the sliding parts using the special grease nipples.
2. Lubricate the slide and relative scroll bar (for attachments with SLS).

TYPE 575 / 577



Picture 36

TYPE 475 / 476



Picture 37

A.T.I.B. S.r.l.
Via Quinzanese snc, 25020 Dello (BS) - ITALY

+39 030 977 17 11

info@atib.com

atib.com

