



INSTRUCTIONS MANUAL FOR USE

FORK POSITIONER TYPE 675 / 676

INDEX

FORK POSITIONER TYPE 675 / 676



WARNING



READ THIS MANUAL VERY CAREFULLY BEFORE STARTING-UP THE MACHINE

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1 SAFETY RULES



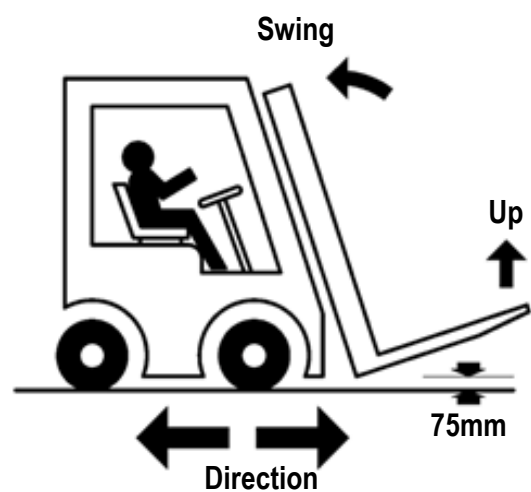
Don't carry passengers



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. - FORK POSITIONER TYPE 675 / 676 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:

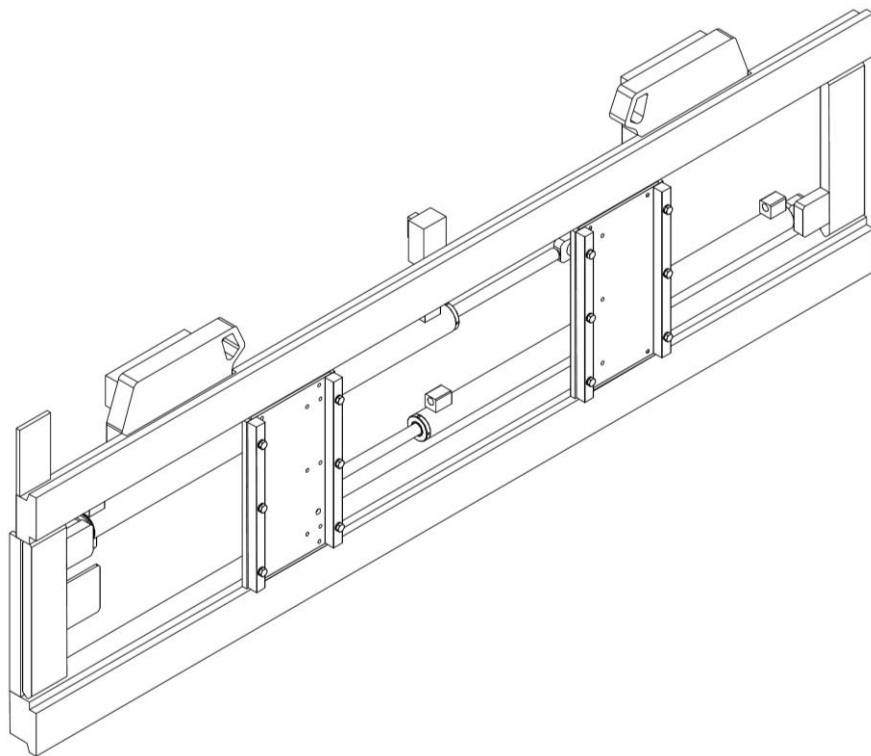
- Improper use of the attachment;
- Use by untrained personnel;
- Use contrary to current national and international laws;
- Lack of recommended maintenance;
- Non authorised modifications and repairs;
- Use of non original spare parts or parts for other models;
- Failure to adhere, either totally or 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.

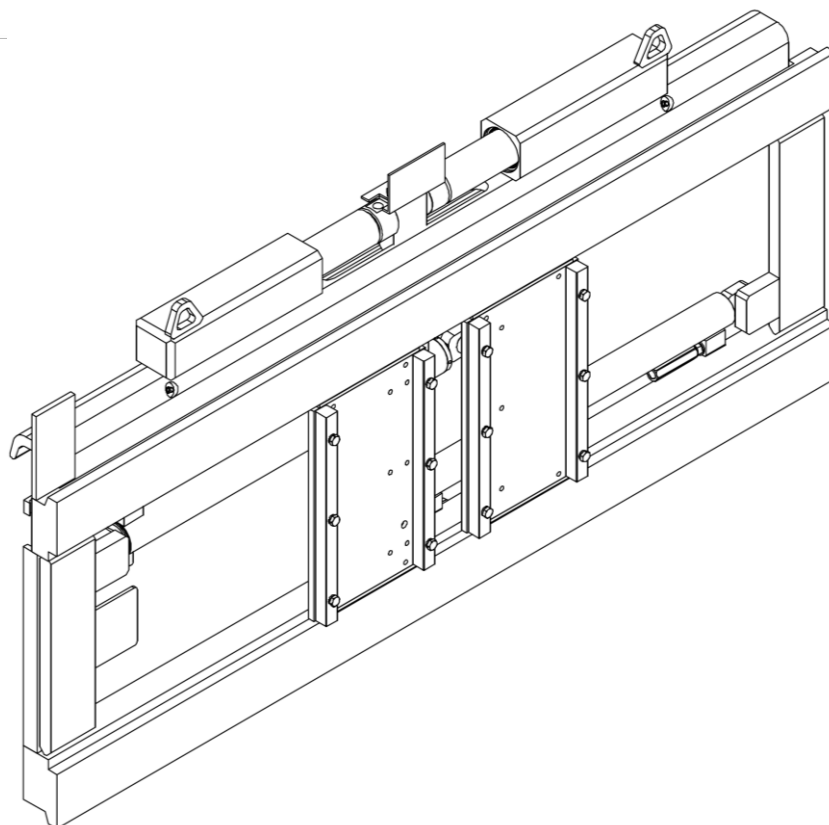
Consult the plate of the forklift (Directive 2006/42 / EC)

2.2 Description of equipment

TYPE 675

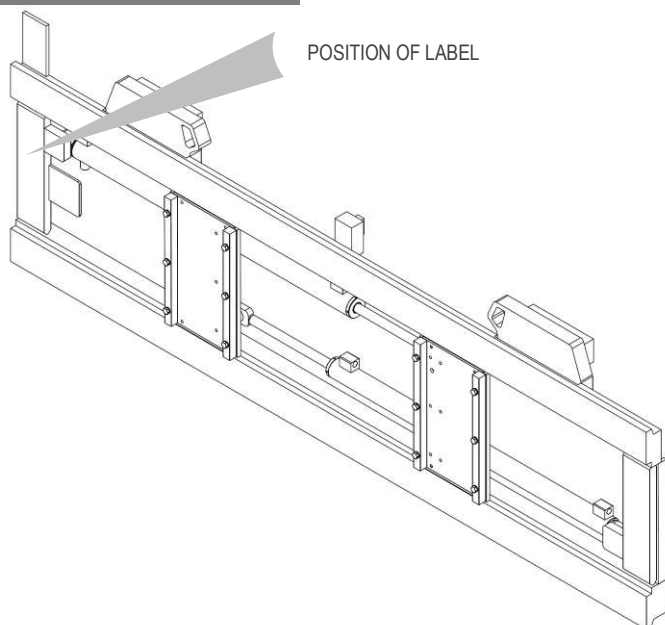


TYPE 676



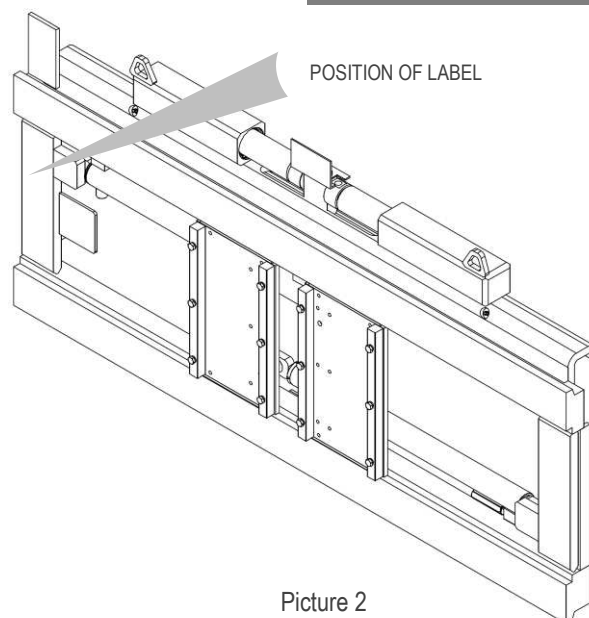
All the A.T.I.B. – FORK POSITIONER TYPE 675 / 676 equipment are identified by means of a sticky identification label on attachment (*Tab 1*) position of identification label on equipment (*Picture 1 and Picture 2*), always refer to the serial number.

TYPE 675





Picture 1

TYPE 676



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. MATRICOLA 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 weight of the equipment in kg.

6. THICKNESS

It indicates the thickness of the equipment in mm.

7. CENTER 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 675 / 676 were planned and built to enable the distance adjustment between fork centres through two-cylinder hydraulic actioning and the sideshifting of the forks by hydraulic actioning (SLS, for type 676), all at the expected operating pressures unless otherwise indicated in the case of specific applications (identification label).

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 relative adjustment movement is carried out by means of two hydraulic cylinders which act directly on the forks, which, suitably modified, slide on the relative bars.

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*).



WARNING



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.

For this reason it is necessary that this is present in a point clearly visible by the driver of the forklift.

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	
675 ISO III	15	25	20	80
675 ISO IV	35	60	45	80
676 ISO III	15/ 10	25/ 20	20/ 15	80
676 ISO IV	35/ 12	60/ 25	45/ 18	80

Tab 2

values in bold refer to sideshift.



WARNING!!



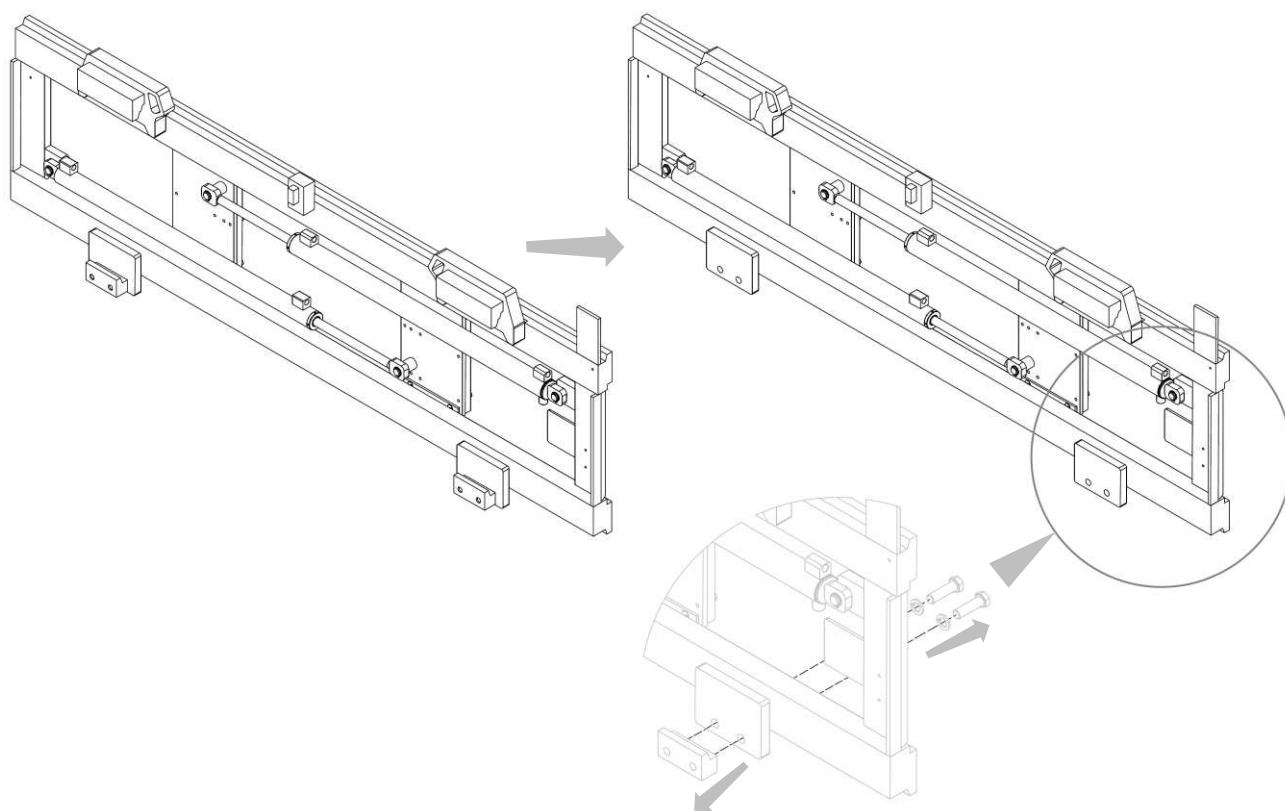
RESPECT THE MAXIMUM WORKING PRESSURES INDICATED

3.1 Installation

3.1.1 Attachment installation - TYPE 675

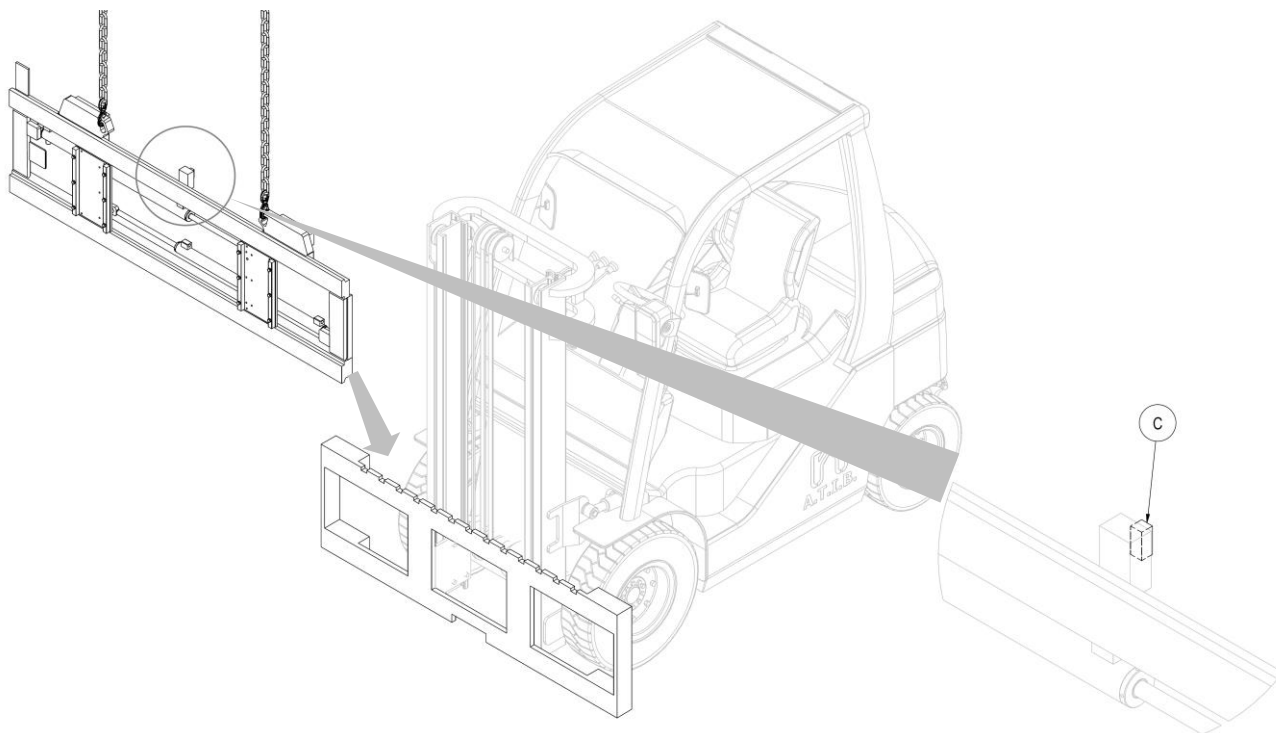
TYPE 675

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*).



Picture 3

5. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the identification plate (*Picture 1 Tab 1 pag.6*).



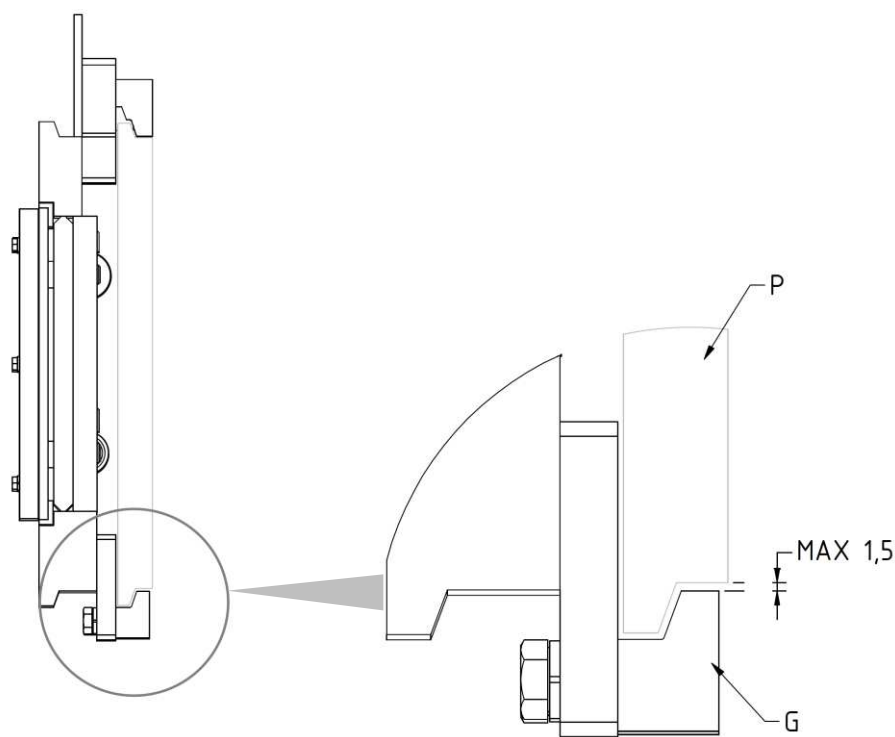
Picture 4

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*).

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 III	M14	140 Nm
ISO IV	M16	220 Nm

Tab 3



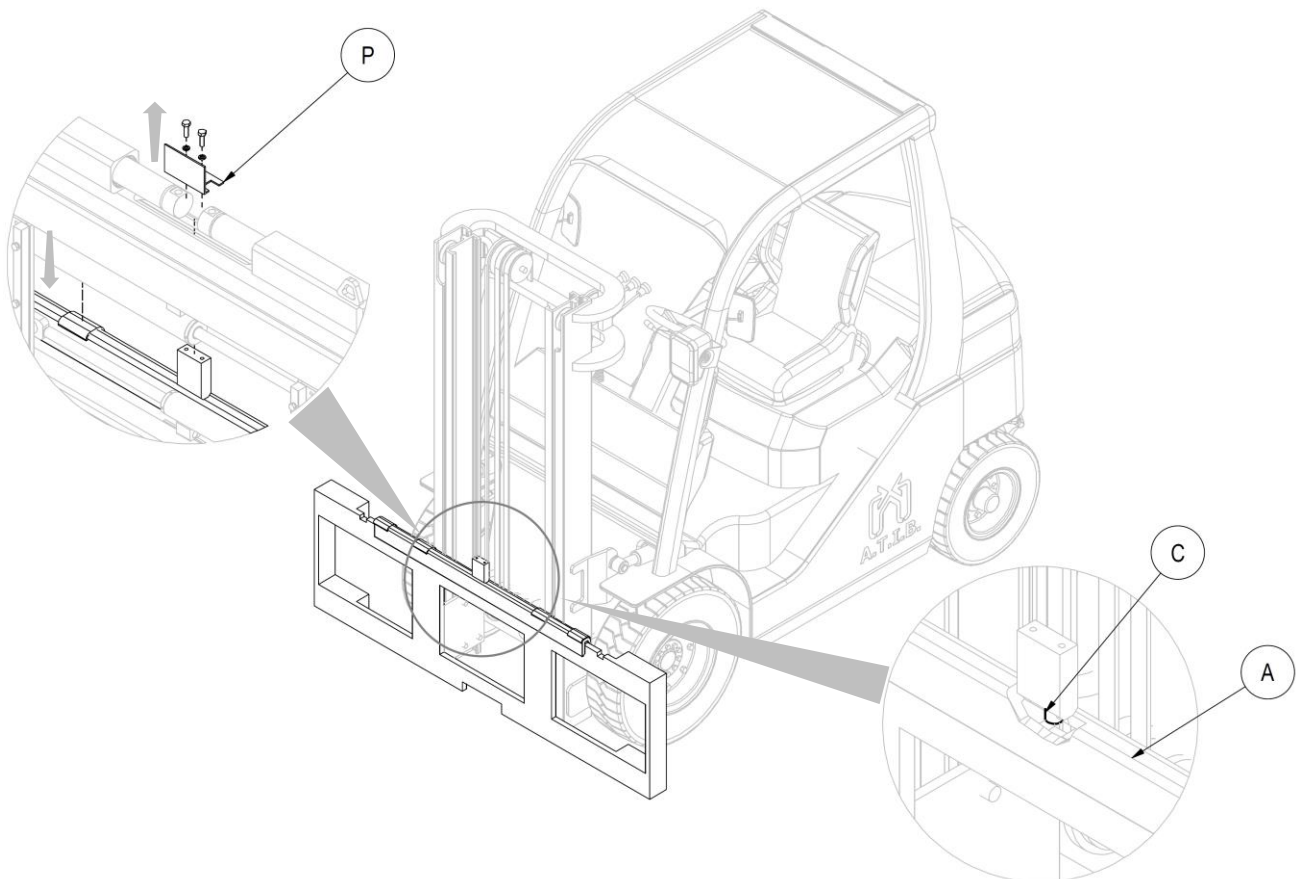
Picture 5

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 Tab 1 pag.6*).

3.1.2 Attachment installation - TYPE 676

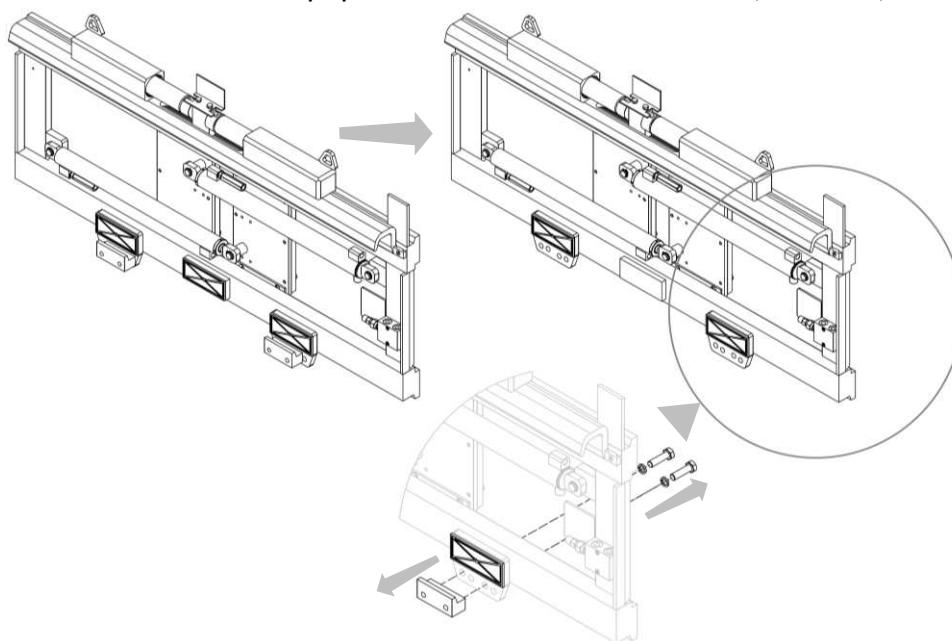
TYPE 676

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 relative sliding bushings), after having unscrewed the screws of the "protective fold" **P** and place it on the upper profile of the fork holder plate, taking care to fit the centring pin **C** in the central notch of the same (*Picture 6*).



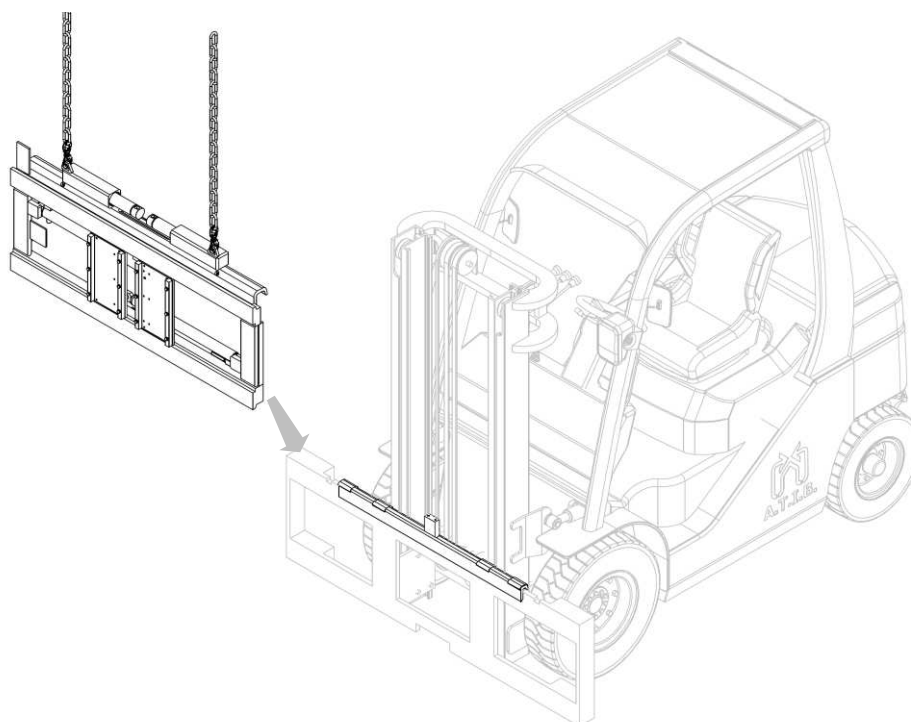
Picture 6

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 2 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*).

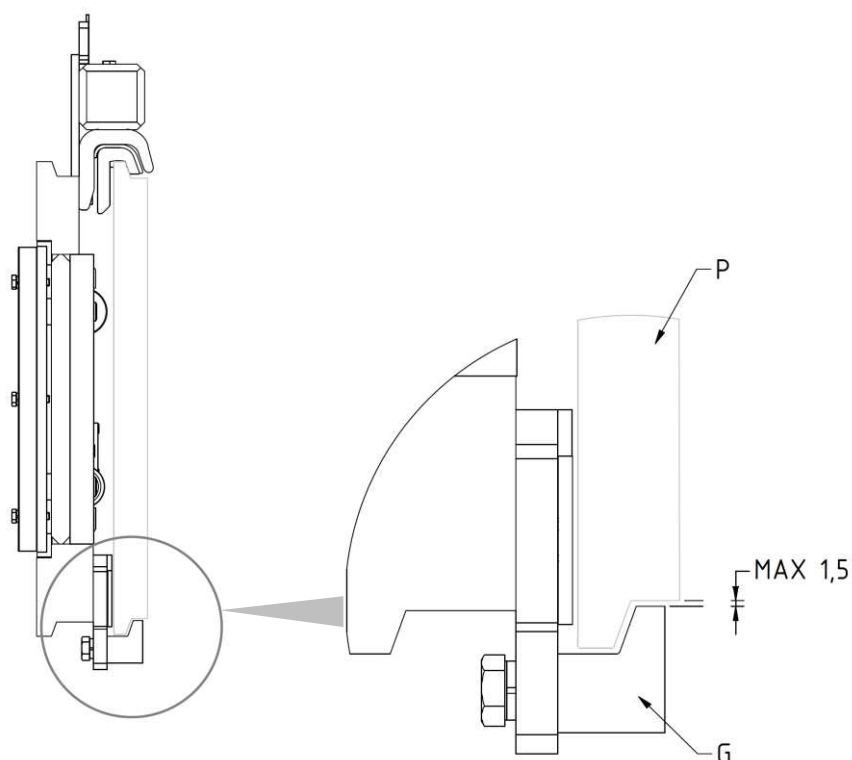


Picture 8

8. Reposition the “protective fold”.
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 9*), reaching to the following torques *Tab 4*.

ISO 2328	THREAD	TORQUE
ISO III	M14	140 Nm
ISO IV	M16	220 Nm

Tab 4



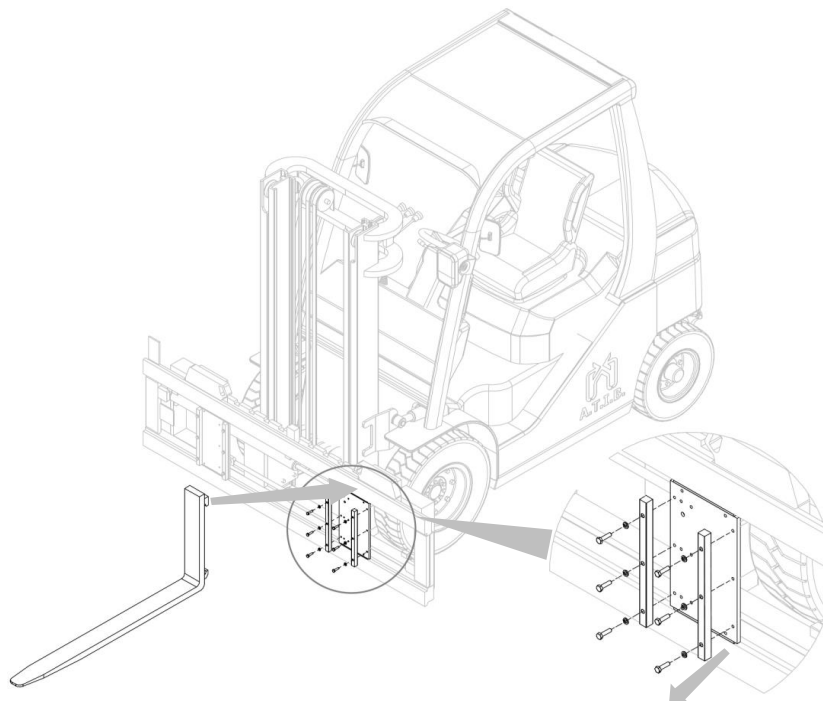
Picture 9

10. Install the forks.
11. Lubricate the sliding 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).

3.2 Fork installation on the attachment

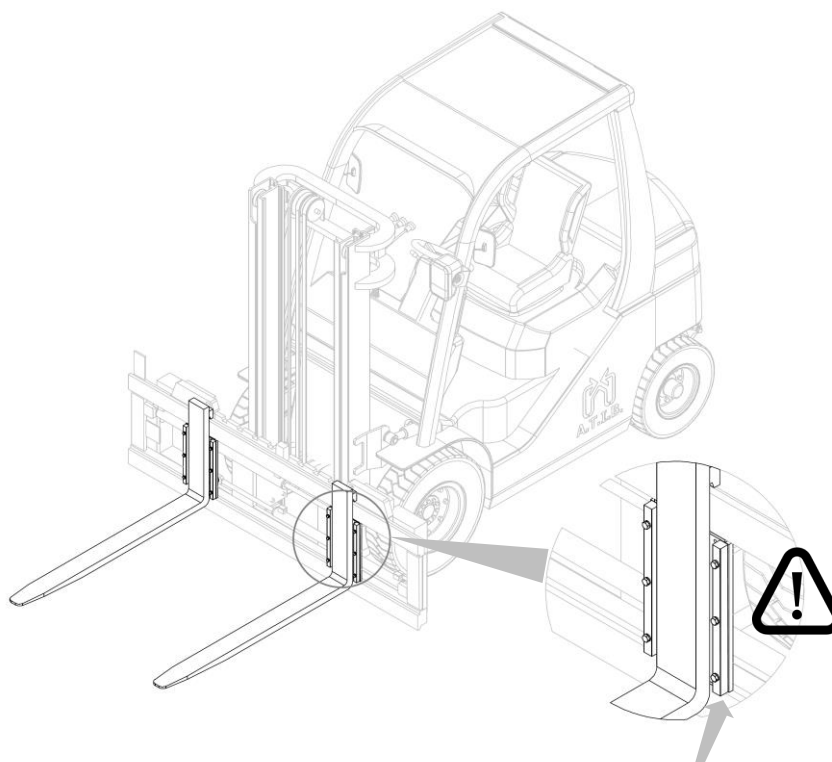
FORK INSTALLATION

1. Apply the forks after unscrew the fork blocks from fork holders (*Picture 10*); the fork installation procedure is the same for both types.



Picture 10

2. Apply the forks and screw back the fork blocks (*Picture 11*).

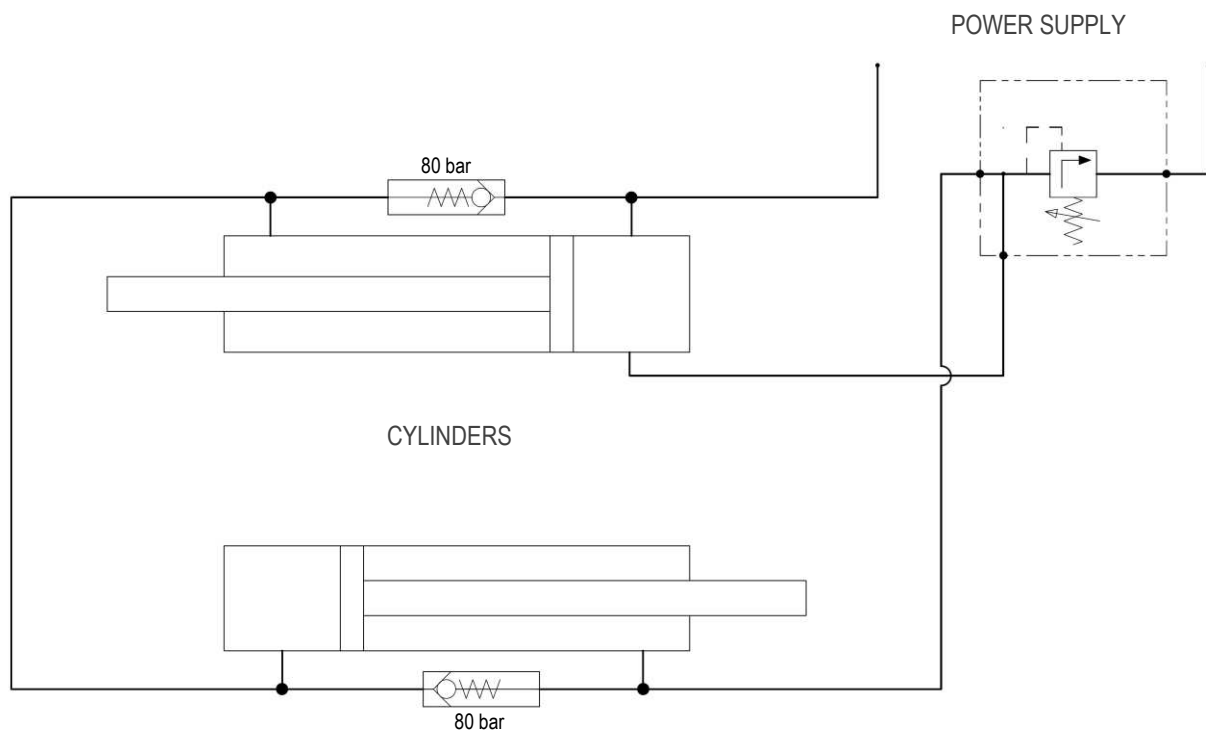


Picture 11

4 HYDRAULIC SYSTEM

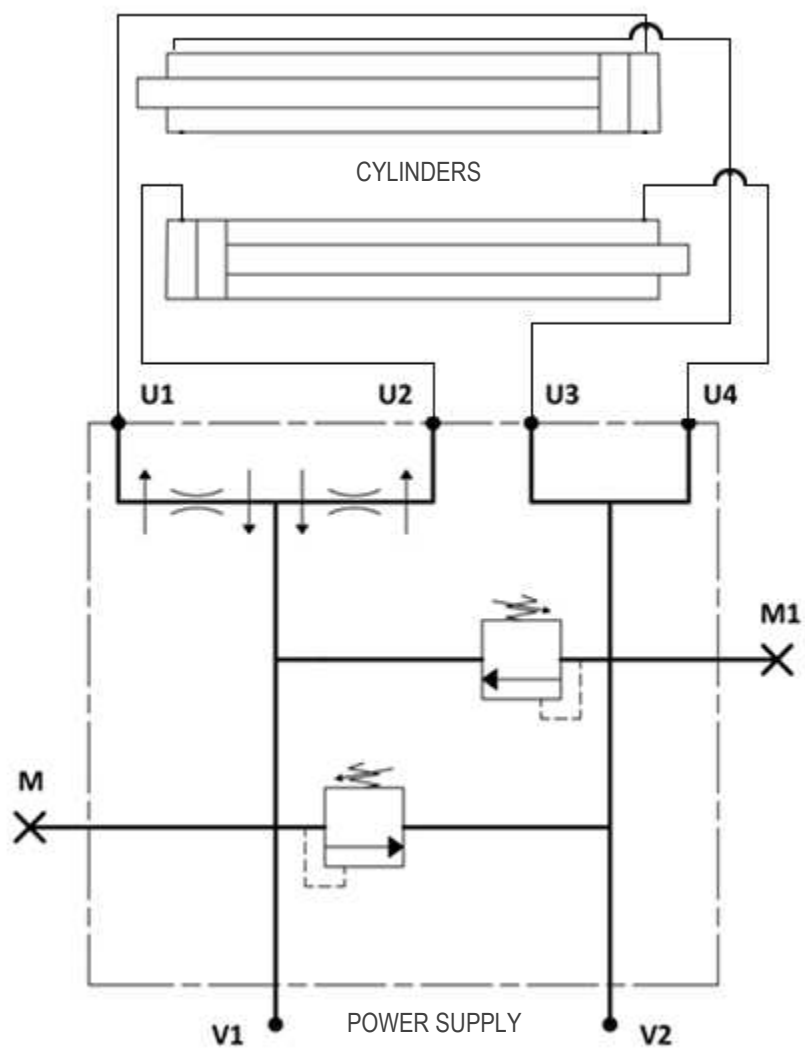
4.1 Hydraulic system – TYPE 675

TYPE 675 ISO III



Picture 12

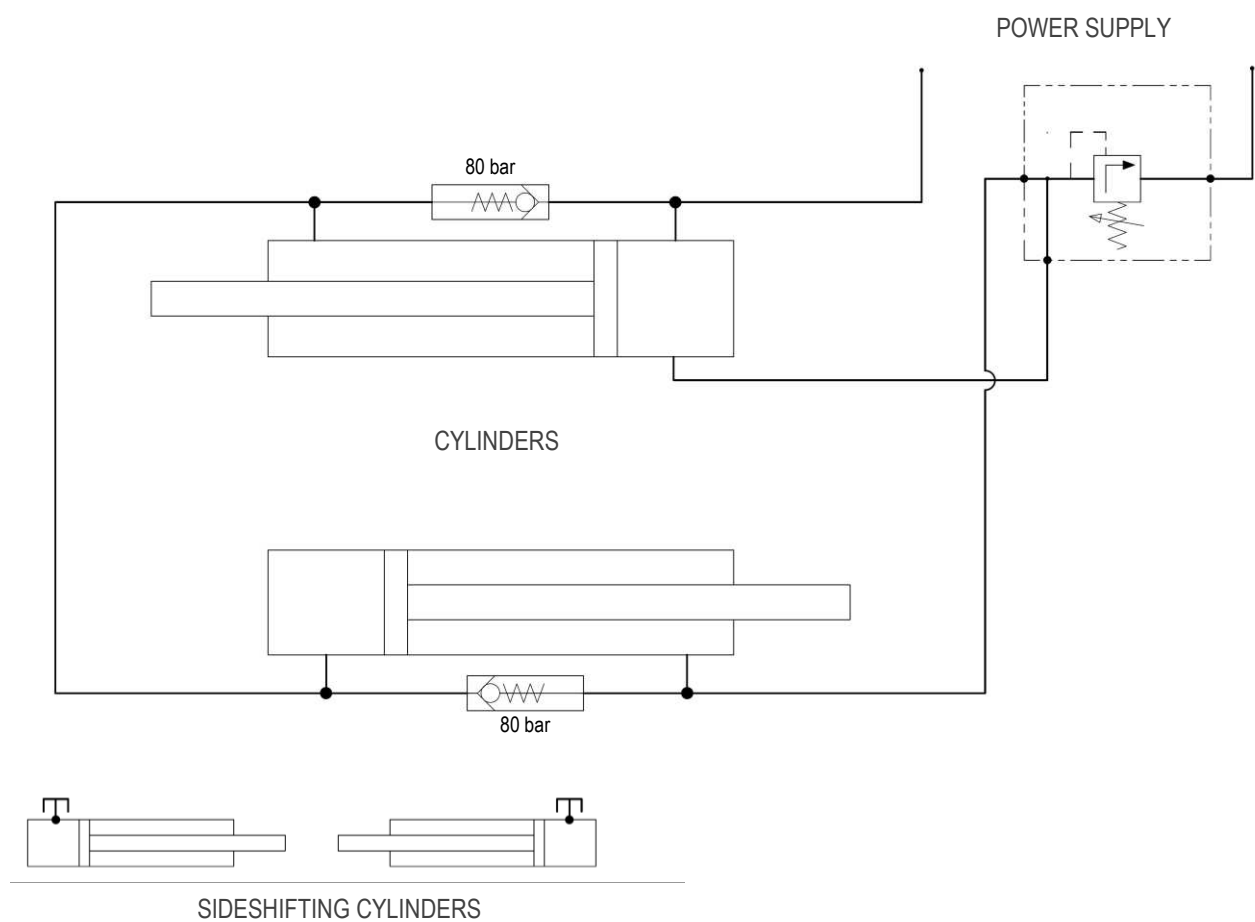
TYPE 675 ISO IV



Picture 13

4.2 Hydraulic system – TYPE 676

TYPE 676 ISO III

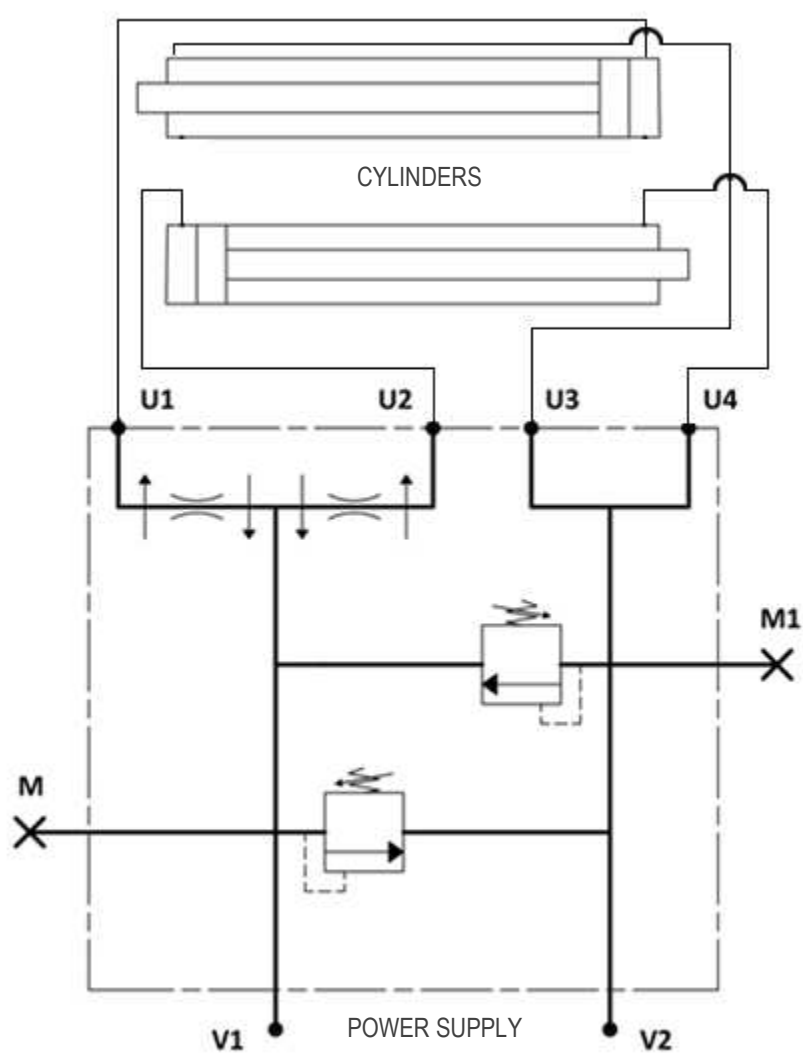


Picture 14

TYPE 676 ISO IV



SIDESHIFTING CYLINDERS



Picture 15

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

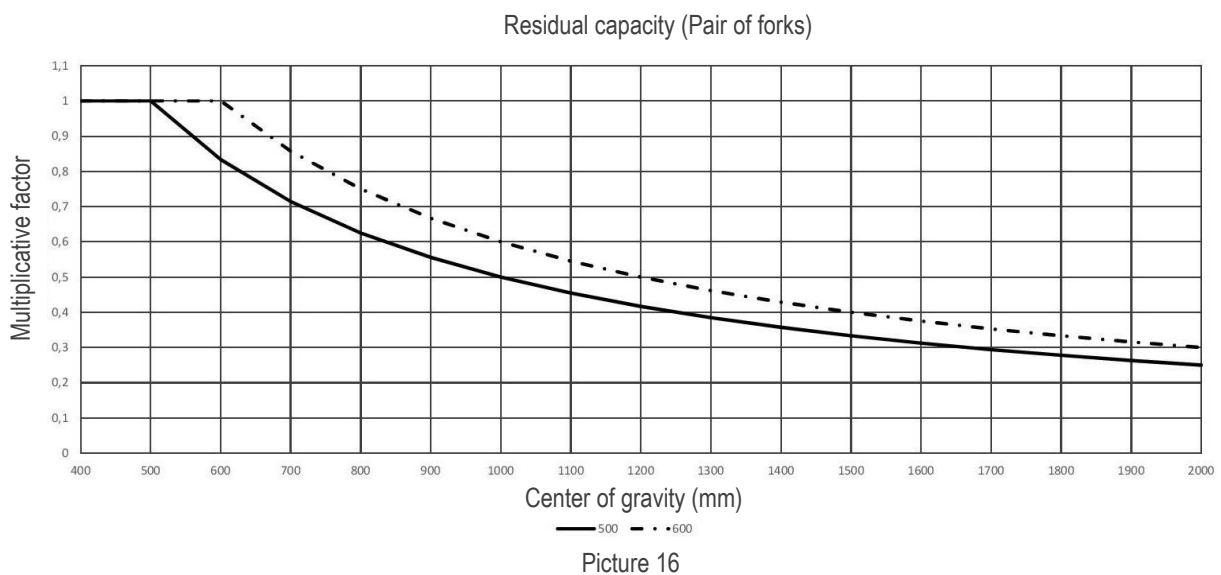
fork you have to reduce the weight of the load.

In this occasion, we suggest to control the chart *Picture 16*, 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.



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* (pag. 11) and *Tab 4* (pag. 14) 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* (pag.11), *Picture 9* (pag.14) and, if necessary, intervene on the tightening of the screws that support them.
4. Check the tightening torque of the bolts of the fork blocks. if necessary, intervene on the tightening of the screws.
5. Clean and lubricate all sliding parts (*Picture 22* and *Picture 23* pag. 32).

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 06.01*).

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. Check the state of the sliding axis, making sure it is not scratched or deformed in any way.
3. Also carry out the operations listed in the previous points (*Point 06.01 and 06.02 pag.23*).

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 5 a pag.31*.

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 (*06.01, and 06.02 e 06.03 pag.23*).

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

7 DISASSEMBLY PROCEDURE

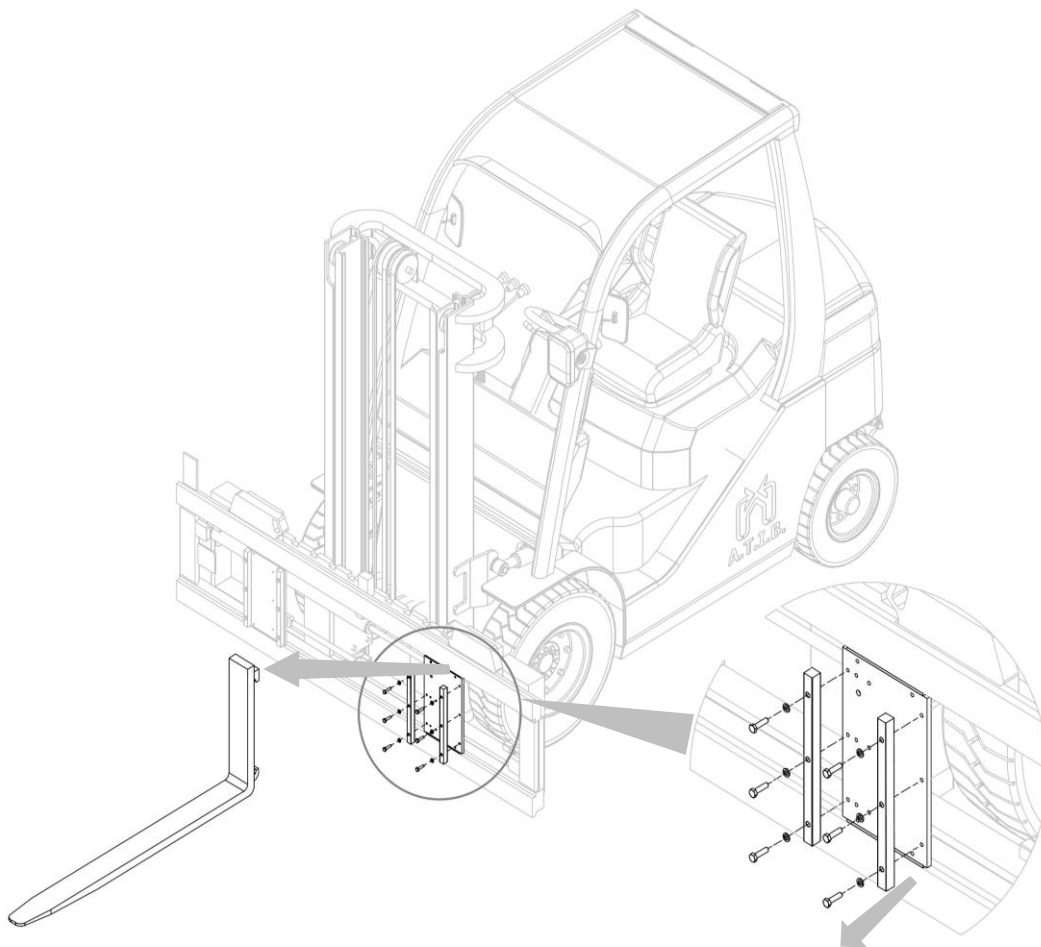
7.1 Disassembly attachment from forklift

1. Relieve the pressure of the hydraulic system.
2. Remove the forks, following the operations indicated in the *fork's installation* phase in reverse.
3. Unscrew the lower hooks of equipment (*Picture 3 and Picture 7 pag.9 and 13*).
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 remove it from forklift (*Picture 4 and Picture 8 pag.10 and 13*).

7.2 Disassembly the forks from attachment

FORK DISASSEMBLY

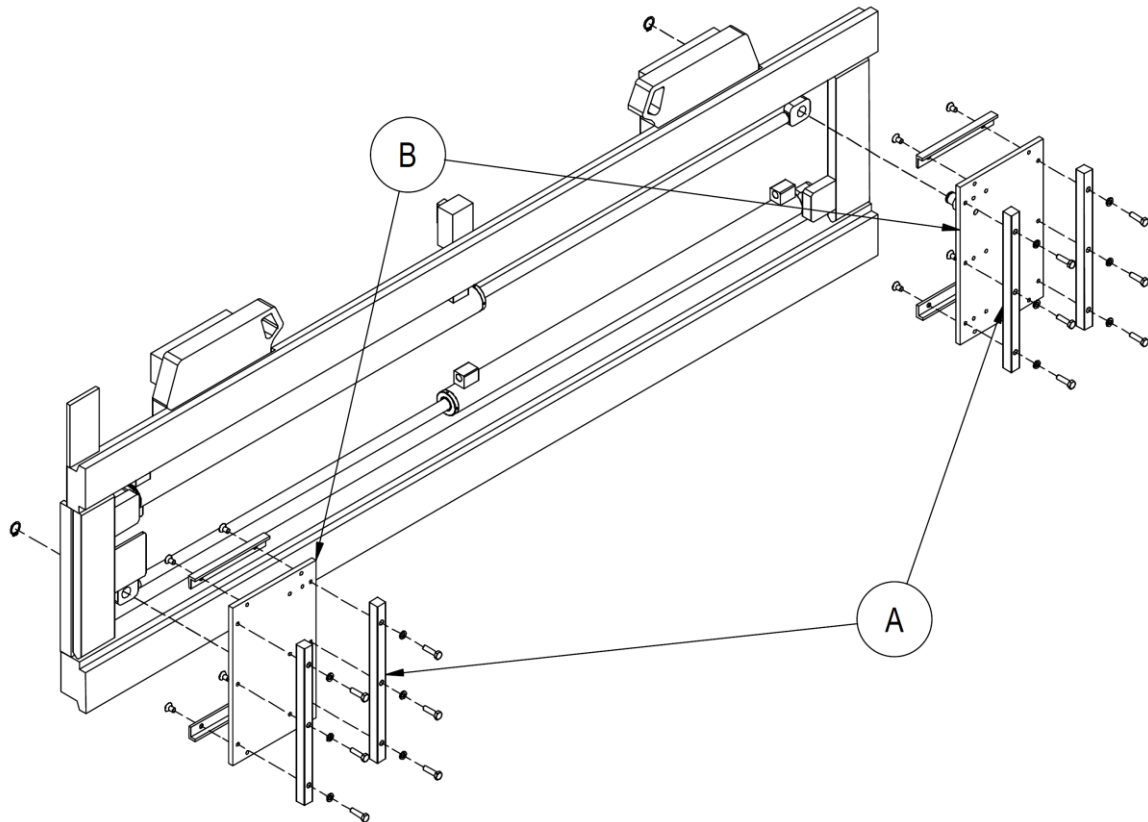
1. Relieve the pressure of the hydraulic system.
2. Remove the forks after unscrewing the fork blocks (*Picture 17*).



Picture 17

7.3 Removal of fork cylinders from the attachment

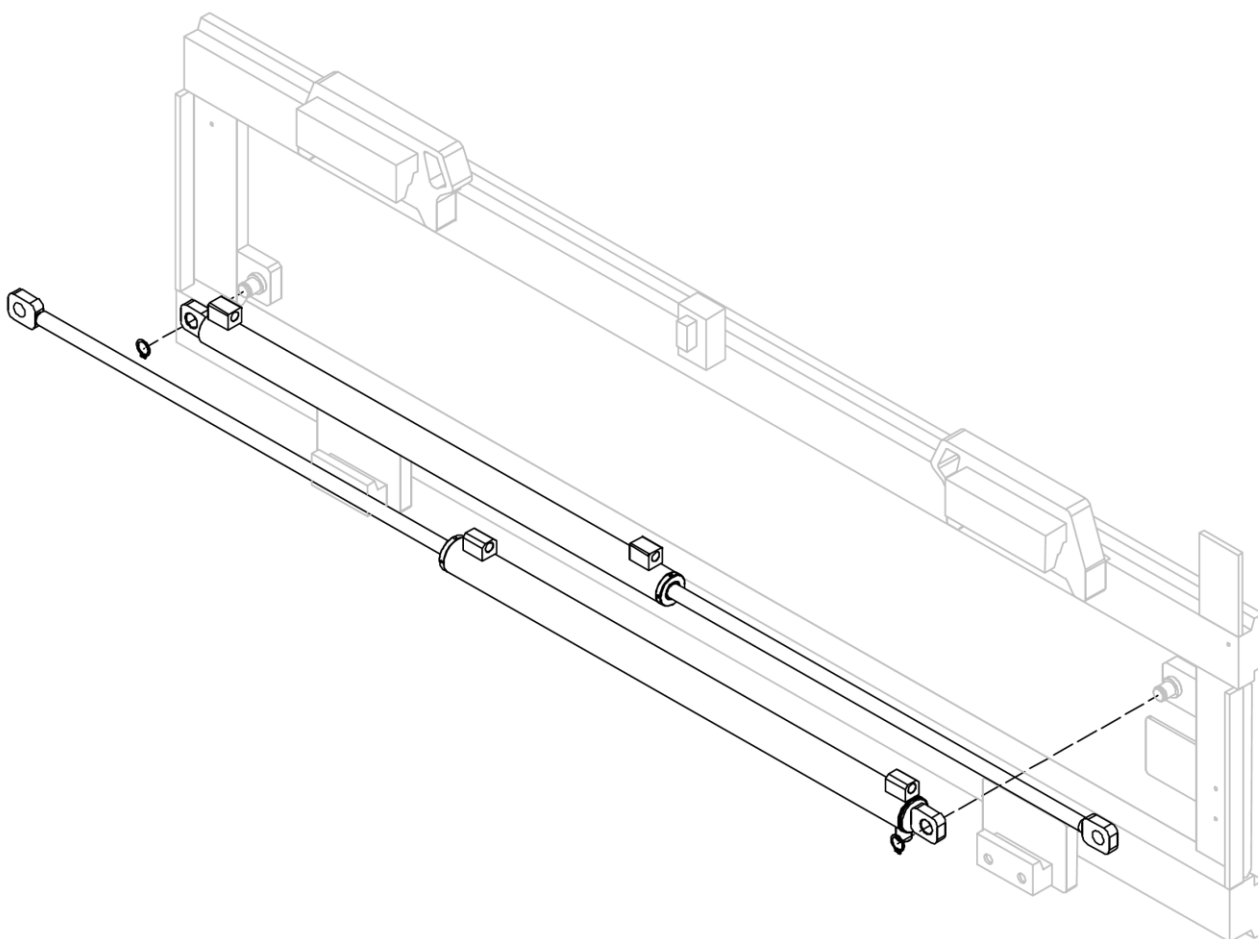
1. Relieve the pressure of the hydraulic system.
2. Remove the fork blocks **A** and subsequently the fork holders **B**, *Picture 18*.



Picture 18

3. Remove the attachment from fork carriage, point 07.01 pag. 25

4. Remove the cylinders from their seats, after removing the relative snap rings (*Picture 19*).

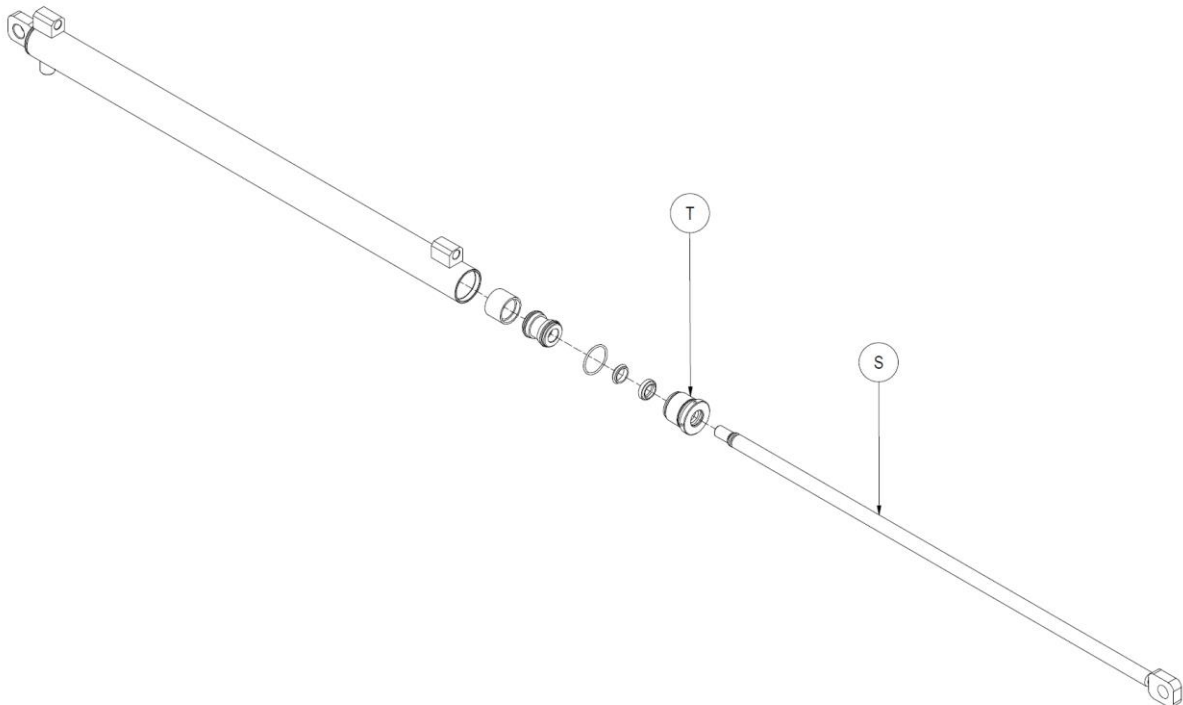


Picture 19

7.3.1 Fork cylinder disassembly and reassembly

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:

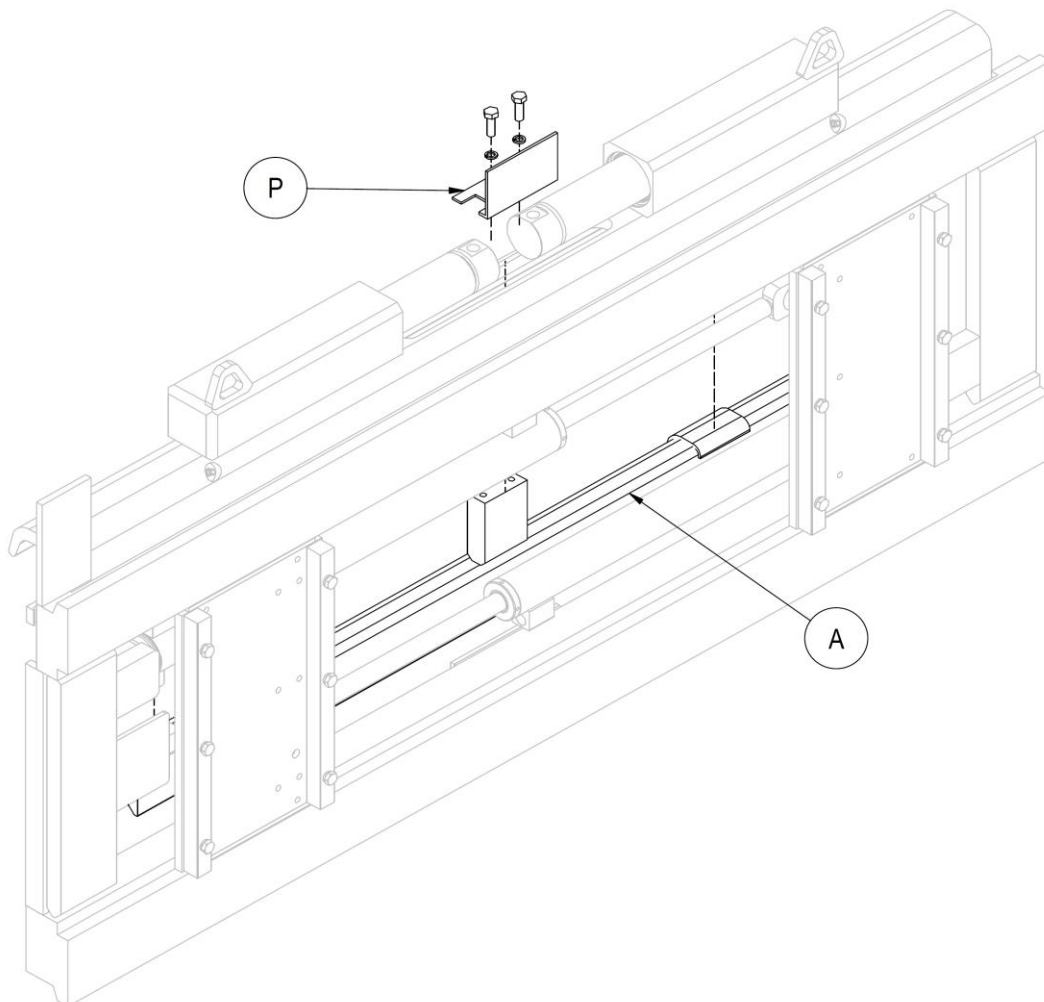
1. Clamp the cylinder in a vice with rubber jaws (taking care not to deform the housing).
2. with a sector wrench unscrew the cup **T**.
3. If you find it difficult to unscrew the cap, it is necessary to slightly heat the area of the thread concerned to facilitate unscrewing.
4. Unscrew the stem **C**.
5. Disassemble / separate the rest of the components and seals from each other.
6. Replacing the worn components, follow the previous steps in backwards, re-lock the cap applying a medium strength thread locker.
7. If there is a damaged seal, it is advisable to replace the entire kit.
8. Refer to *Picture 20*.



Picture 20

7.4 Maintenance SLS cylinder

1. Relieve the pressure of the hydraulic system and disconnect the pipes.
2. Remove the attachment from forklift, follow the point 07.01 pag.25
3. Remove double hook (A) after having unscrewed the screws of the "protective fold" (P).
4. Remove the stems and relative seals from their seat, one at a time.
5. Replacing the worn components, follow the previous steps in backwards.
6. If there is a damaged seal, it is advisable to replace the entire kit.
7. Refer to *Picture 21*.



Picture 21

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 seals or if, 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
Irregular side shift	Lack of oil in the tank	Top up
	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

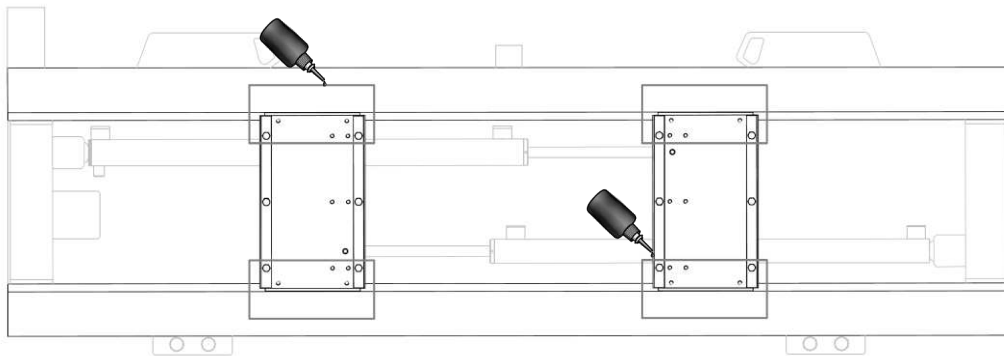
Tab 5

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

8.2 Lubrication

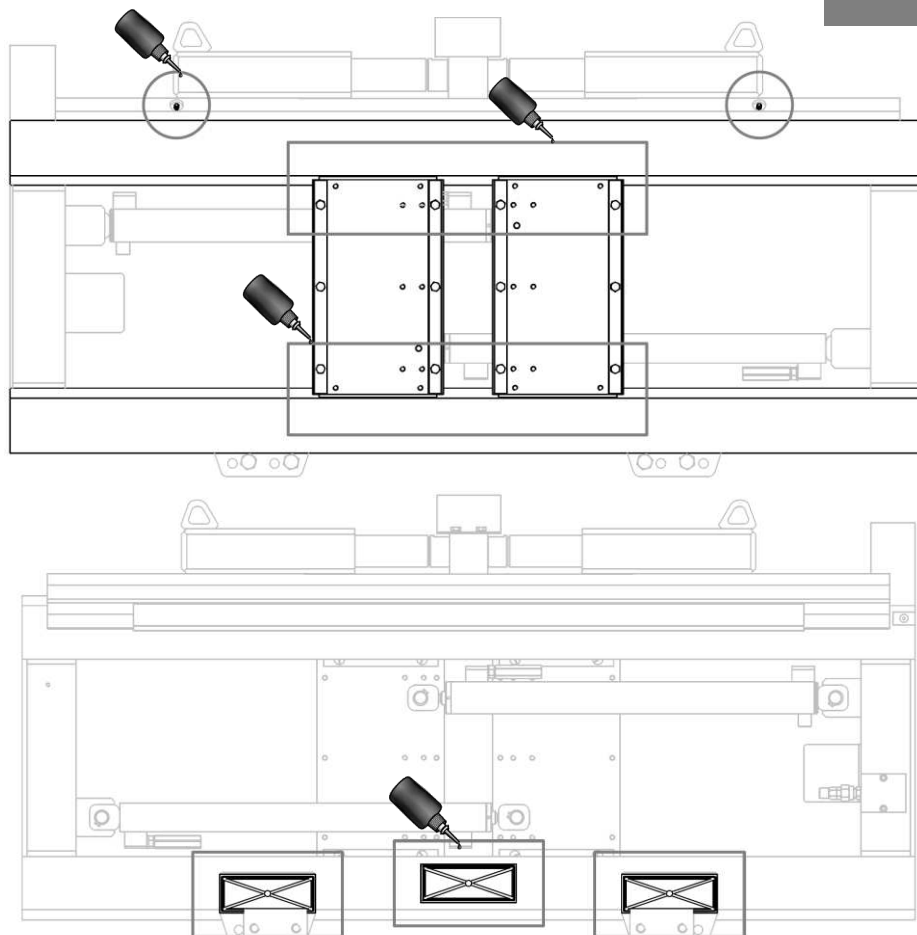
1. Lubricate the sliding parts using the special grease nipples.
2. Lubricate the slide and relative scroll bar.

TYPE 675



Picture 22

TYPE 676



Picture 23



A.T.I.B. S.r.l.

Via Quinzanese snc

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