INSTRUCTION MANUAL FOR USE

WIDE OPENING FORK POSITIONER TYPE 883

INDEX

WIDE OPENING FORK POSITIONER TYPE 883

⚠ **WARNING** ⚠

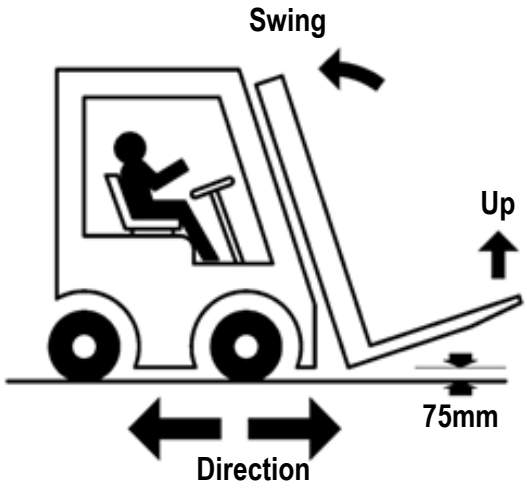
READ THIS MANUAL VERY CAREFULLY BEFORE STARTING-UP THE MACHINE

1 USE 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. - WIDE OPENING FORK POSITIONER TYPE 883 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.

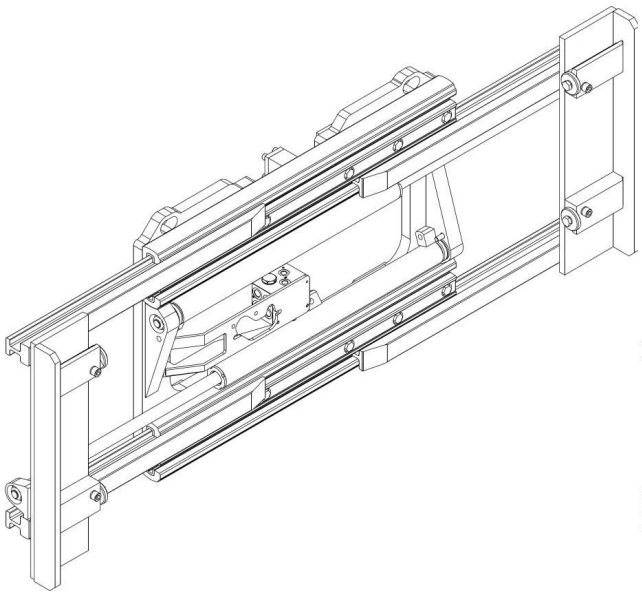
The manufacturer is not liable in cases of:

- 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.

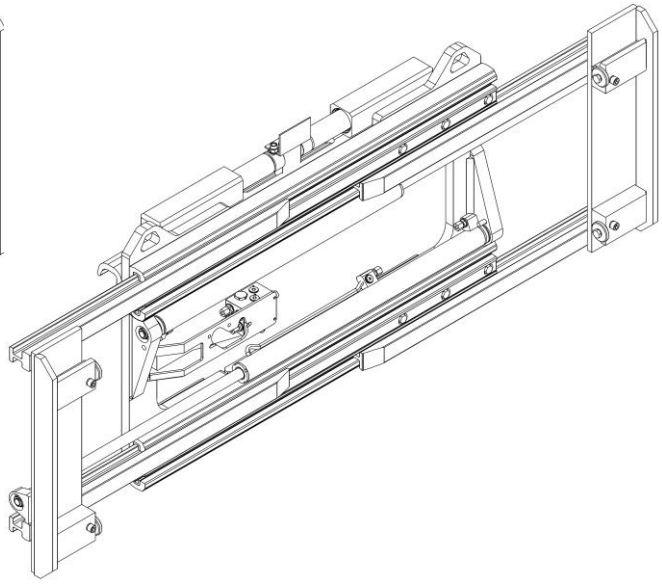
The Nominal Capacity of the forklift / Equipment combination is established by the original manufacturer of the forklift and may be lower than that indicated on the identification plate.
Consult the plate of the forklift (Directive 2006/42 / EC).

2.2 Description of equipment

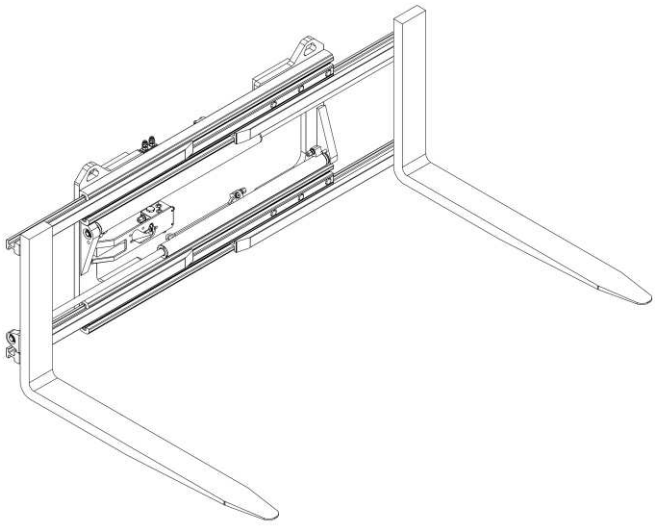
TYPE 883



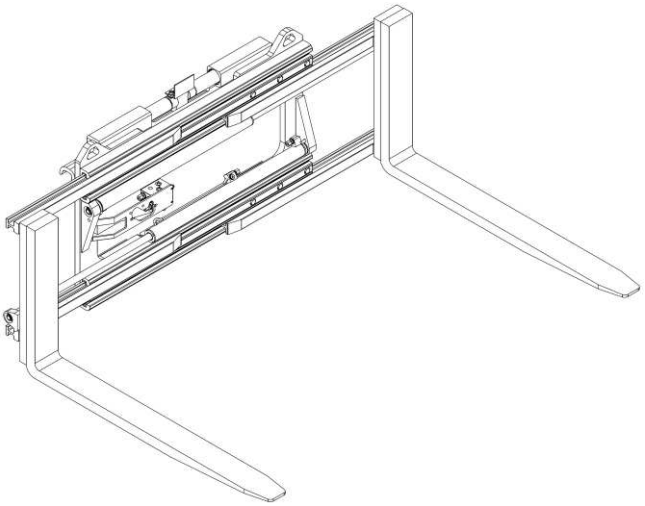
TYPE 883 WITH SLS



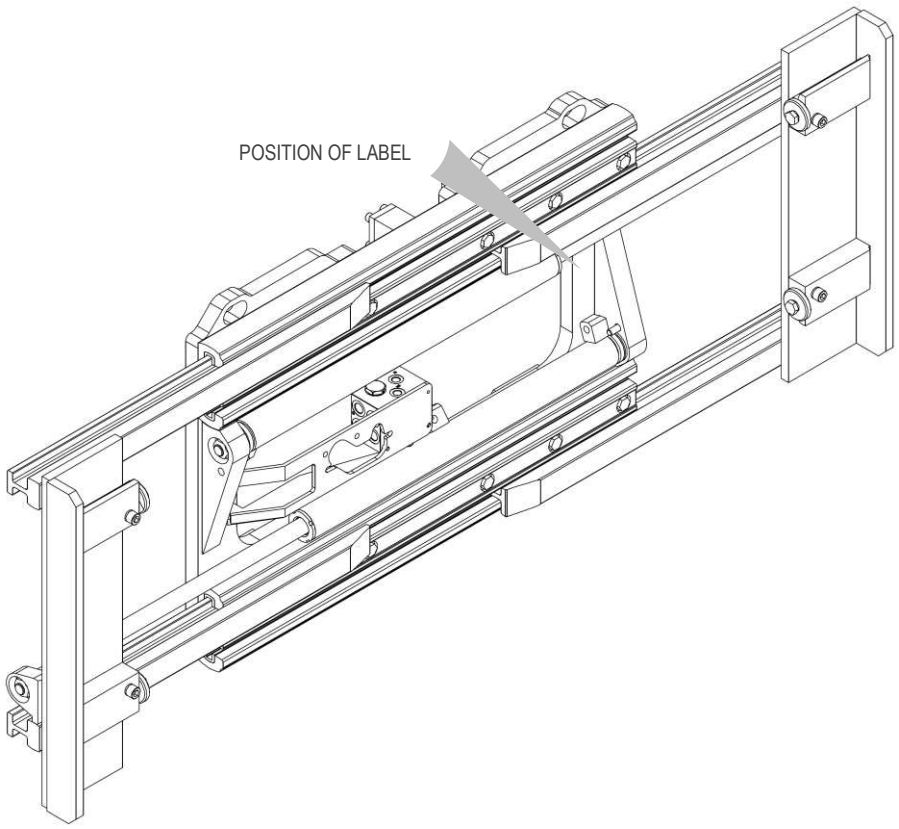
TYPE 883 FS



TYPE 883 FB



All the A.T.I.B. – WIDE OPENING FORK POSITIONER TYPE 883 equipment are identified by means of a sticky identification label on attachment (*Tab 1*) position of identification label on equipment (*Picture 1*), always refer to the serial number.



Picture 1

1. **TYPE**	**8. NOMINAL CAPACITY**	**kg/mm**	**11. MAX. TORQUE**	**daN m**
2. **CODE**	**9. CLAMPING CAPACITY**	**kg/mm**	A.T.I.B.	CE
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 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. - WIDE OPENING FORK POSITIONER TYPE 883 were planned and built to enable the distance adjustment between fork centres through hydraulic actioning, all at the expected operating pressures unless otherwise indicated in the case of specific applications (see identification label).

SLI = with INTEGRAL SIDESHIFT
SLS = with SEMI-INTEGRAL SIDESHIFT
FB = with BOLTED FORKS
FS = with WELDED FORKS

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.

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

Check operating pressure and flow rate 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.

TIPO and ISO	PORTATA (l/mm)			Max operating pressure (Bar)
	Min.	Max.	racommended	
883 ISO II [2400kg.@500mm.]	10	20	15	80
883 ISO III [3000kg.@500mm.]	15	25	20	80
883 ISO III [4500kg.@500mm.]	15	25	20	80
883 ISO IV [4500kg.@600mm.]	30	60	45	80
883 ISO IV [7000kg.@600mm.]	35	60	45	80

Tab 2

⚠ WARNING!! ⚠

RESPECT THE MAXIMUM WORKING PRESSURES INDICATED

3.1 Installation

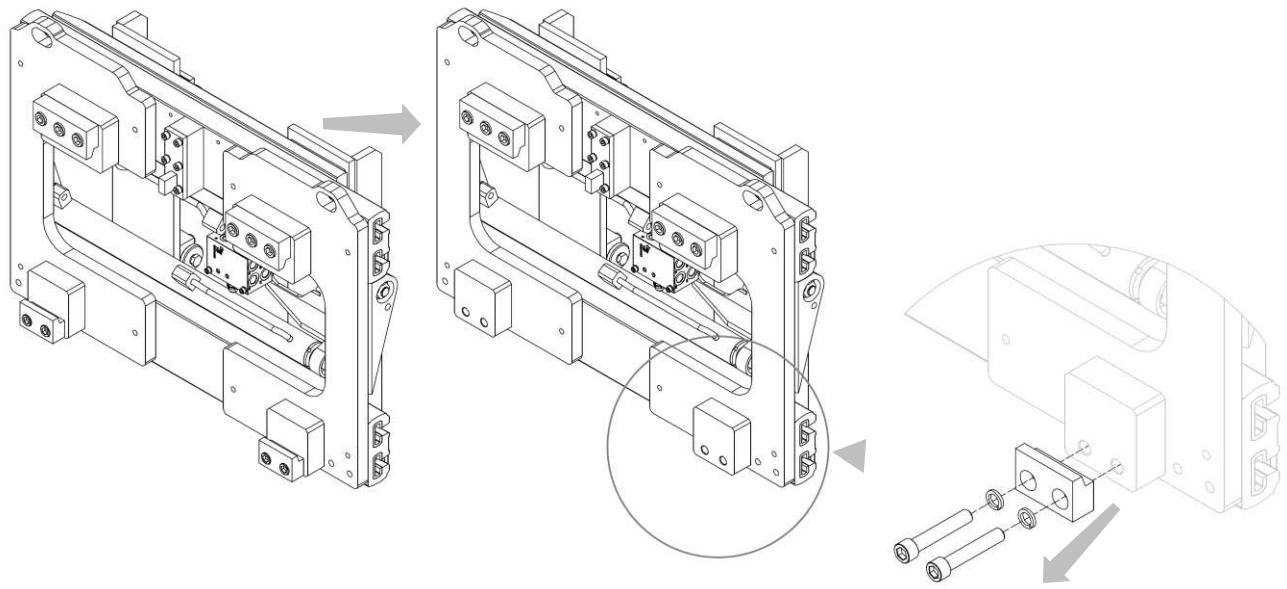
3.1.1 Attachment installation - TYPE 883

TYPE 883

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.

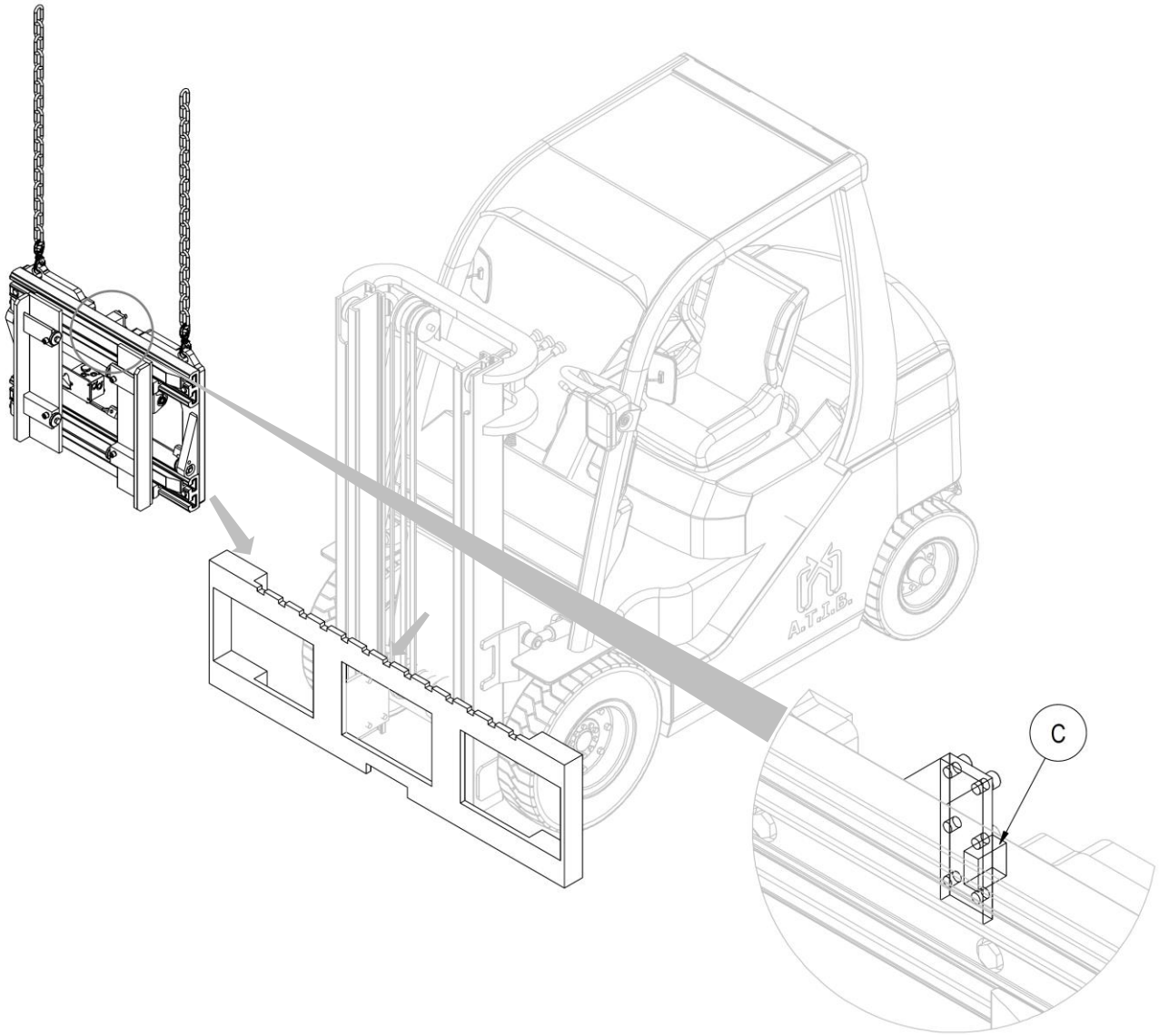
NOTE: The following figures show only the 883 standards, since the procedure for installing the equipment on the forklift is the same for welded forks and bolted forks type.

4. Unscrew the lower hooks of equipment (*Picture 2*).



Picture 2

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*).



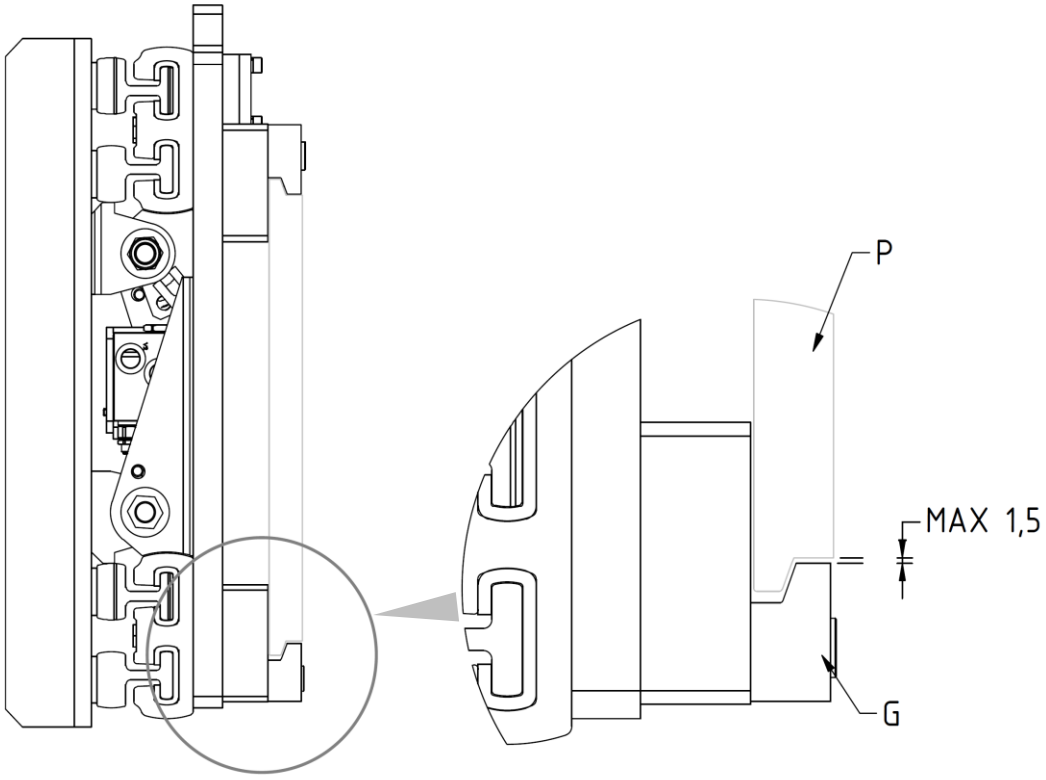
Picture 3

6. With an overhead crane or with a hoist of sufficient capacity hook the attachment to the fork carriage, placing the centring tooth **C** into the central notch (*Picture 3*).

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 4*), reaching to the following torques *Tab 3*.

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

Tab 3



Picture 4

8. Insert 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 883 with SLS

TYPE 883 WITH SLS

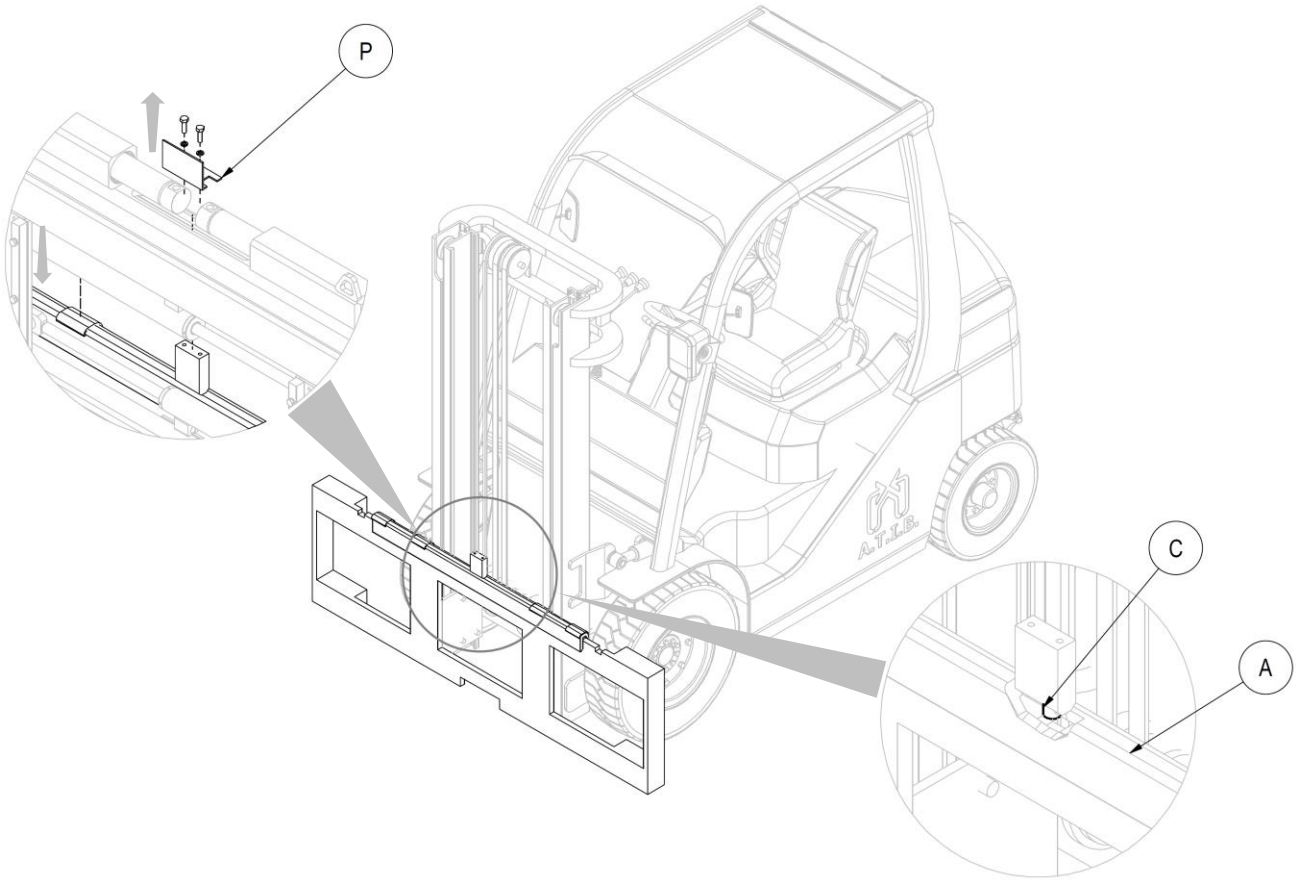
1. Before installation, verify the condition of the fork holding plate, making sure that the lower profile is free of roughness that could compromise the sliding of the lower slides.

2. Also make sure that the profiles of the fork holding plate are not deformed, in order to allow a good coupling with the sideshifting equipment.

3. Check the condition of the pipes, replacing those that are in a bad condition.

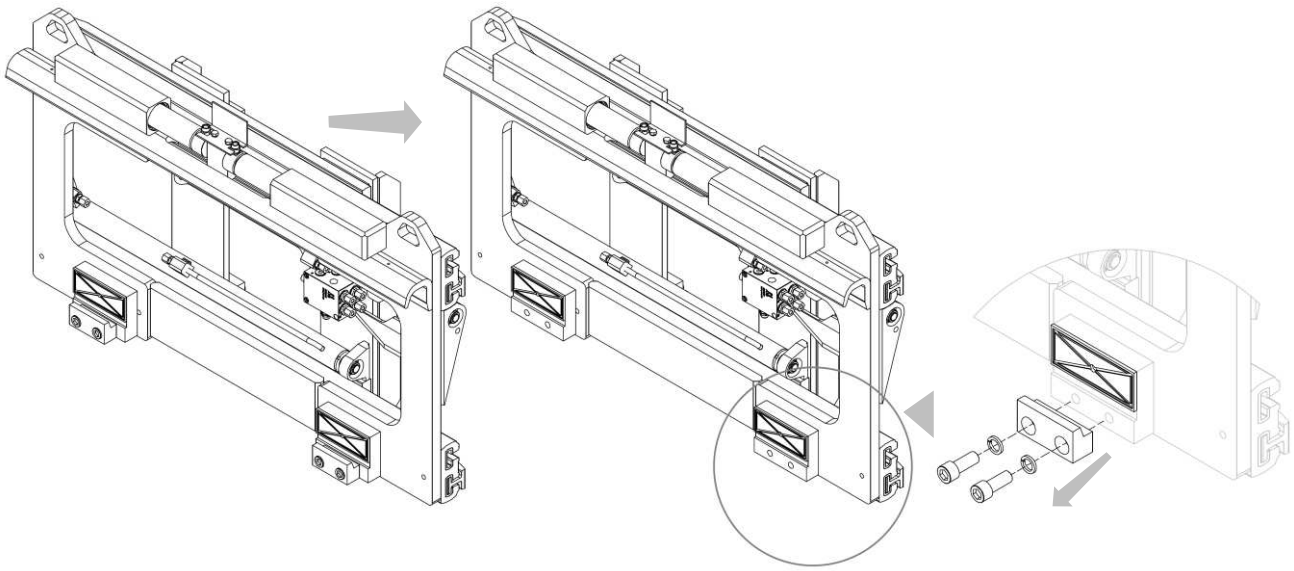
NOTE: The following figures show only the 883 standards, since the procedure for installing the equipment on the forklift is the same for welded forks and bolted forks type.

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 5*).



Picture 5

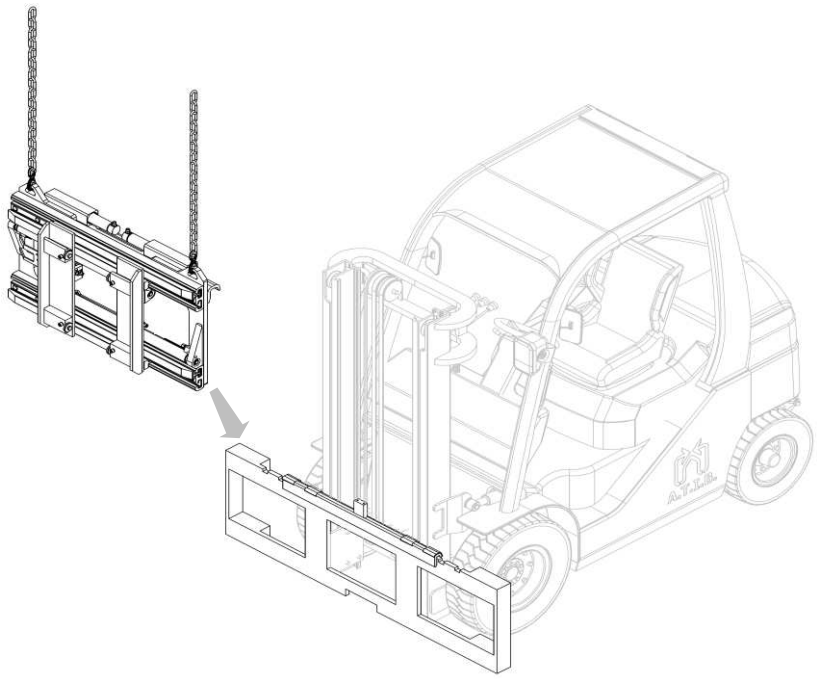
5. Unscrew the lower hooks of equipment and lubricate the slide (*Picture 6*).



Picture 6

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 7).*



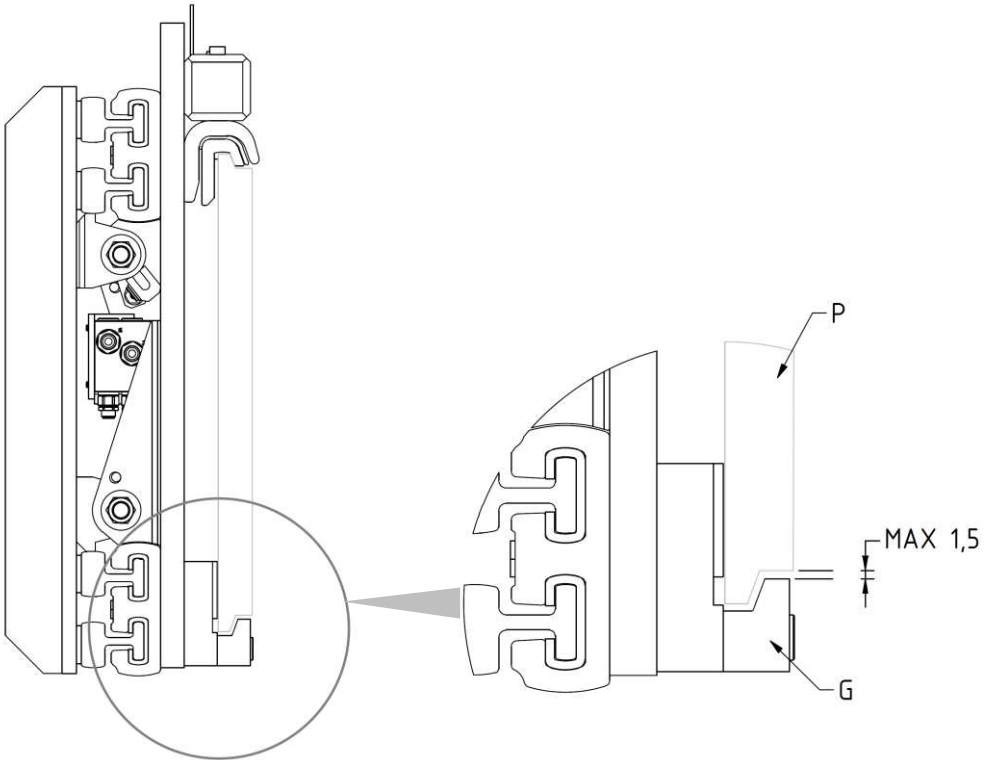
Picture 7

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, see detail *Picture 8*), reaching to the following torques *Tab 4.*

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

Tab 4



Picture 8

10. Insert the forks.

11. Lubricate the contact parts.

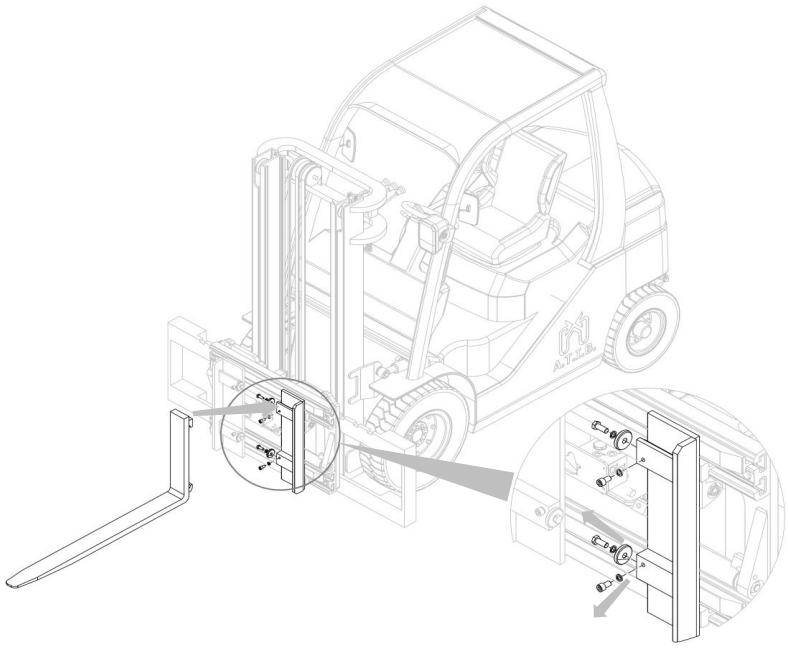
12. Connect the hydraulic circuit; making sure that the operating pressure of the pipes is higher than or equal to that indicated on the identification label (*Picture 1* and *Tab 1* pag. *6)*.

3.2 Fork installation on attachment

3.2.1 Fork installation – TYPE “STANDARD”

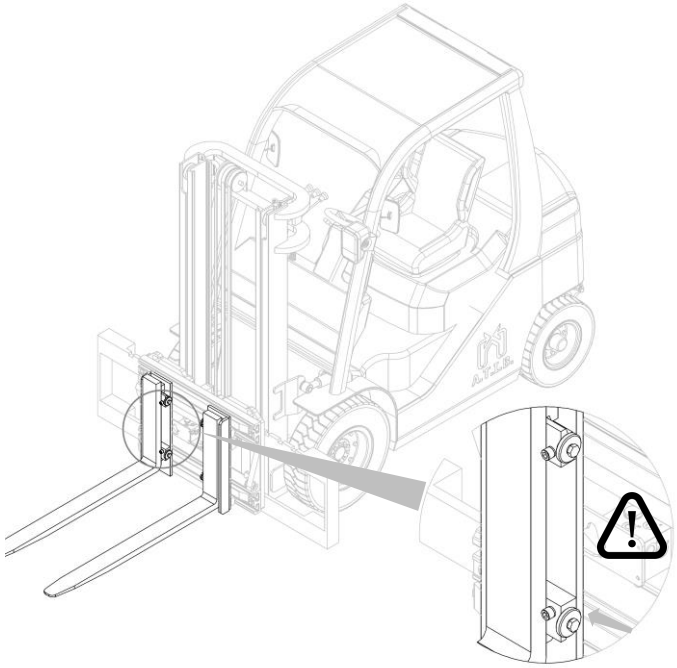
TIPO “STANDARD”

1. Apply the forks after unscrew the fork blocks from fork holders (*Picture 9*), according to the width of the forks, use the most appropriate fork stops (lateral or placed on the front part of the sliders).



Picture 9

2. Apply the forks and screw back the fork blocks (*Picture 10*).



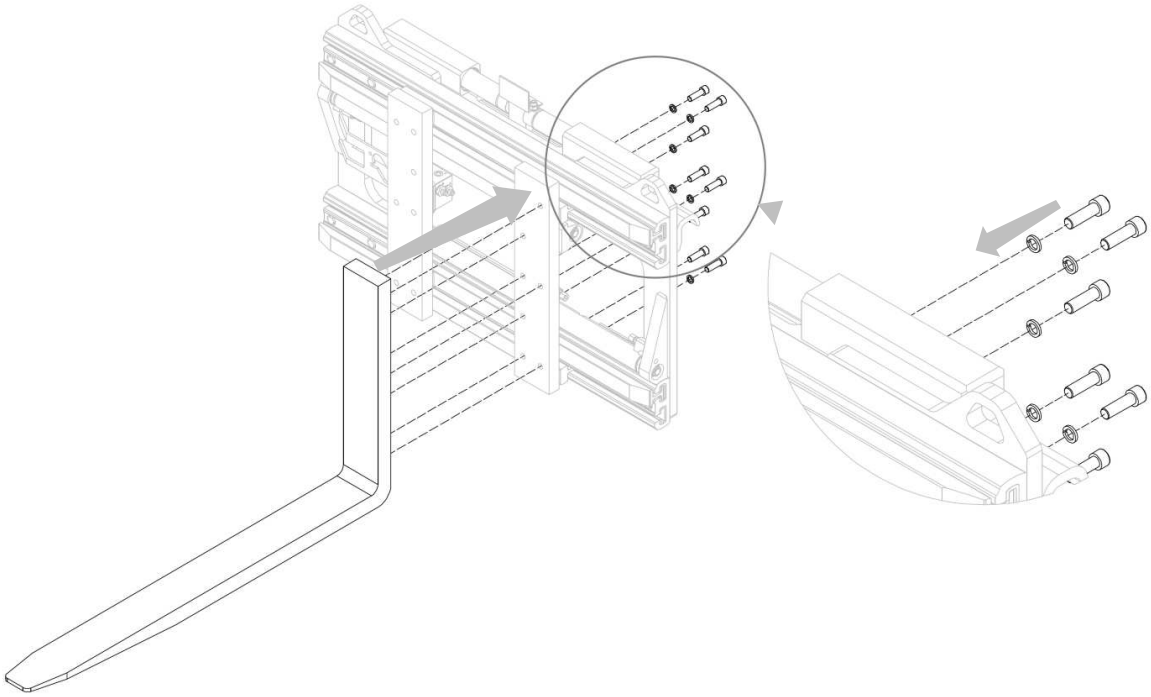
Picture 10

3.2.2 Fork installation – TYPE “FB”

TYPE “BOLTED FORKS”

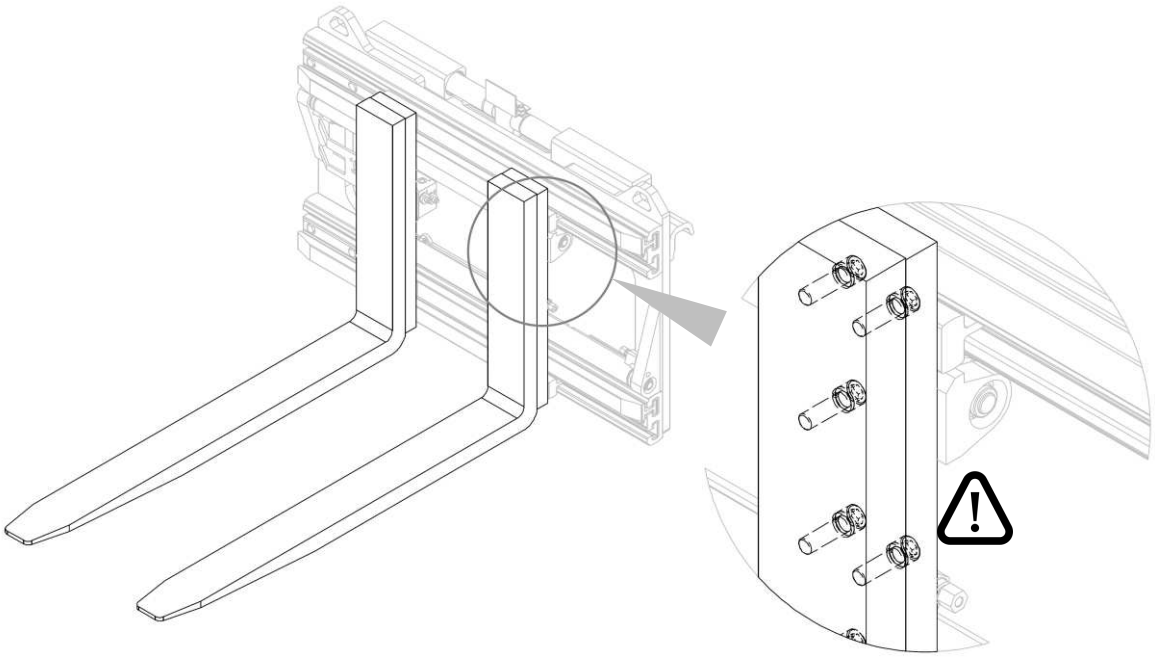
1. Relieve the pressure of the hydraulic system and disconnect the pipes.

2. Apply the forks on fork holder, tightening the relative screws that lock them (*Picture 11*).



Picture 11

3. Check the correct locking of the forks (*Picture 12*).



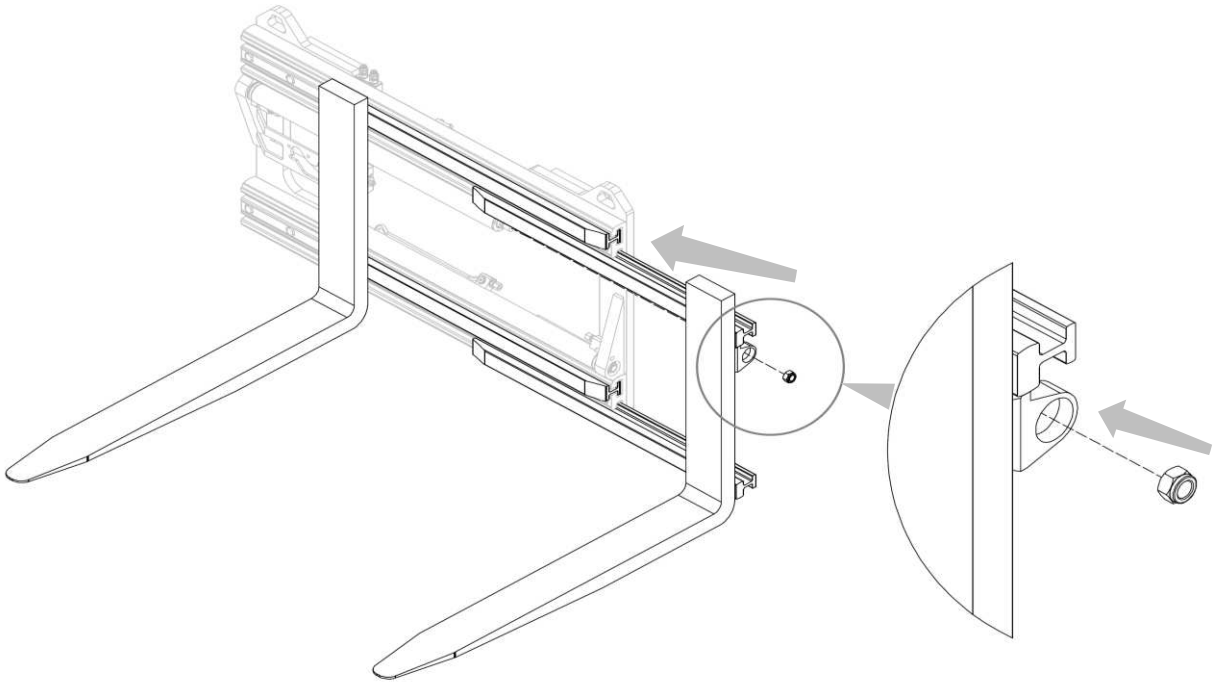
Picture 12

3.2.3 Fork installation – TYPE “FS”

TYPE “WELDED FORKS”

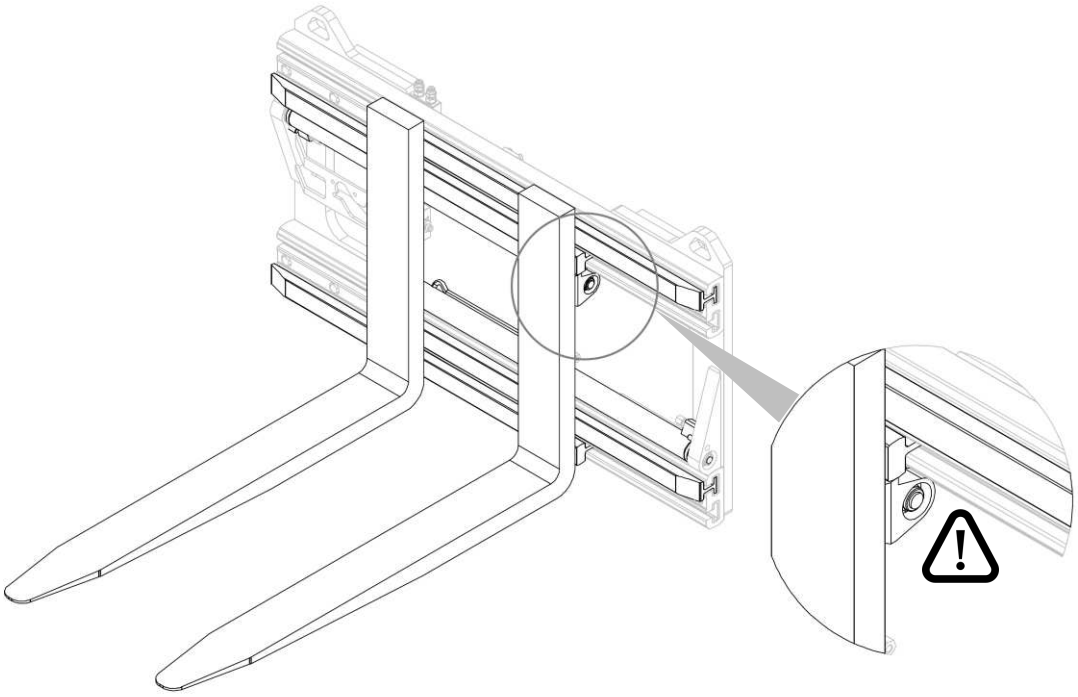
1. Relieve the pressure of the hydraulic system.

2. Insert the forks, with the relative forks welded on them, and by the appropriate nut, fasten them to the cylinders (*Picture 13*).



Picture 13

3. Check the correct locking of the forks (*Picture 14*).

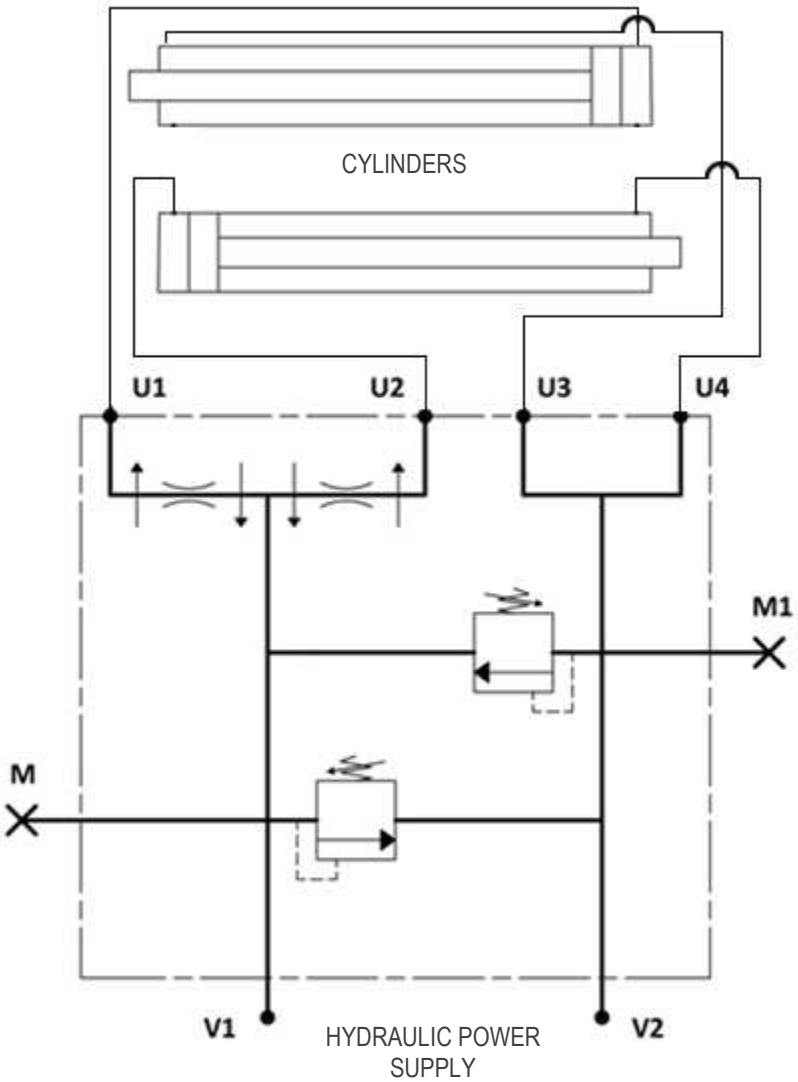


Picture 14

4 HYDRAULIC SYSTEM

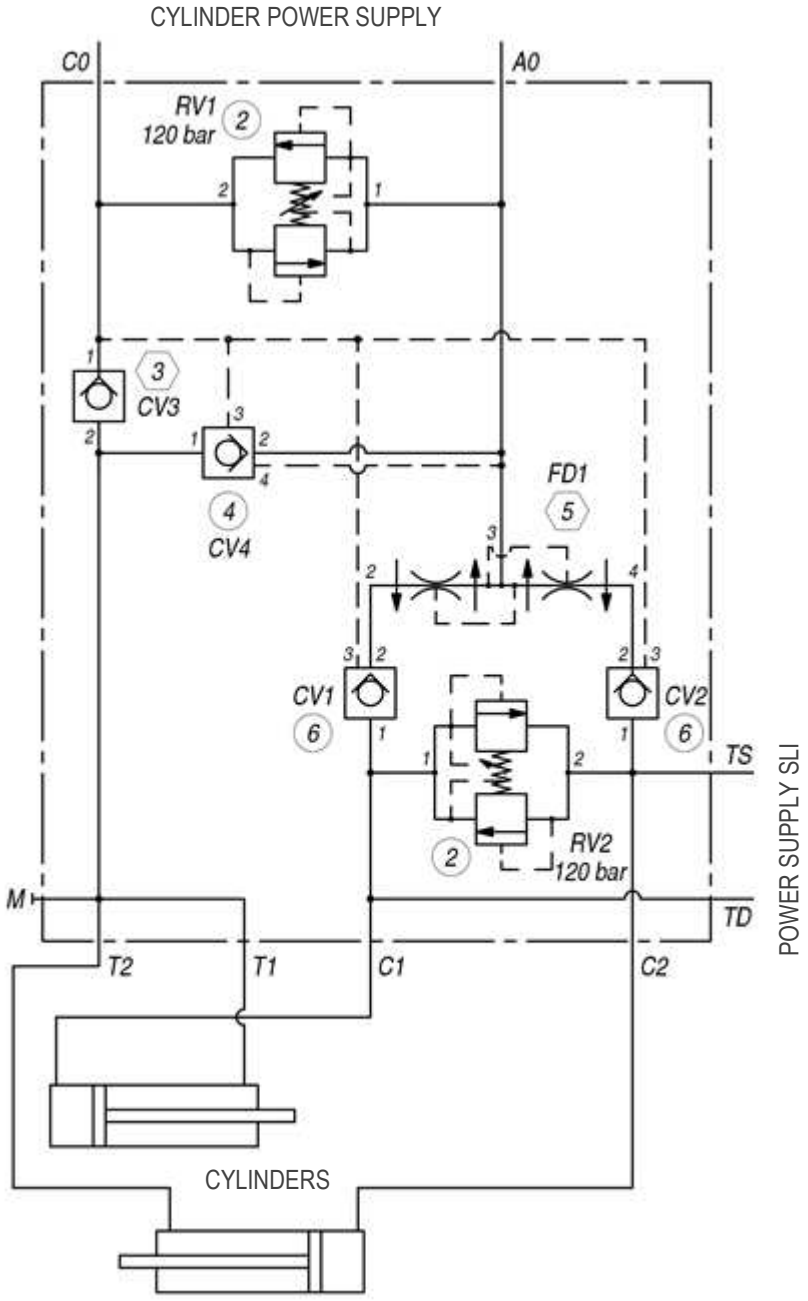
4.1 Hydraulic system – TYPE 883

TYPE 883



Picture 15

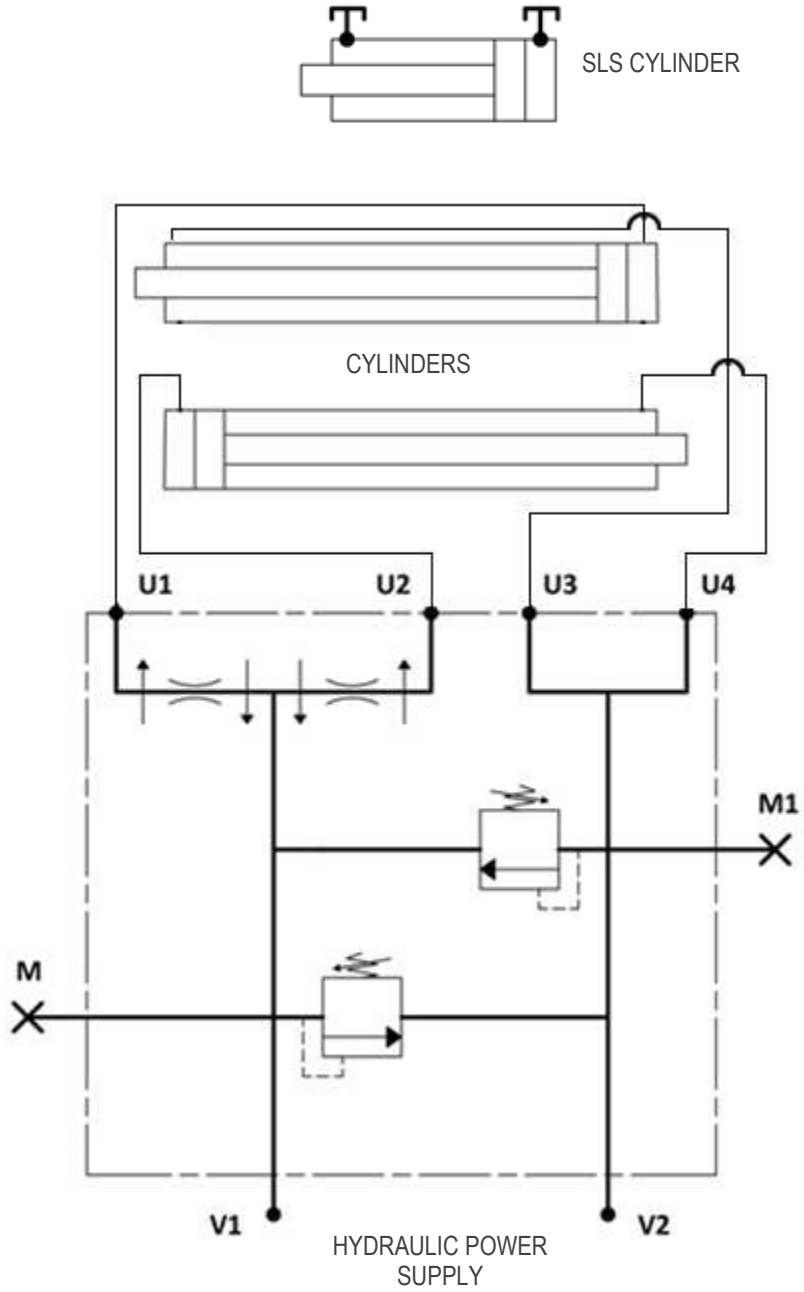
TYPE 883 WITH SLI



Picture 16

4.2 Hydraulic system – TYPE 883 with SLS

TYPE 883 WITH SLS



Picture 17

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.

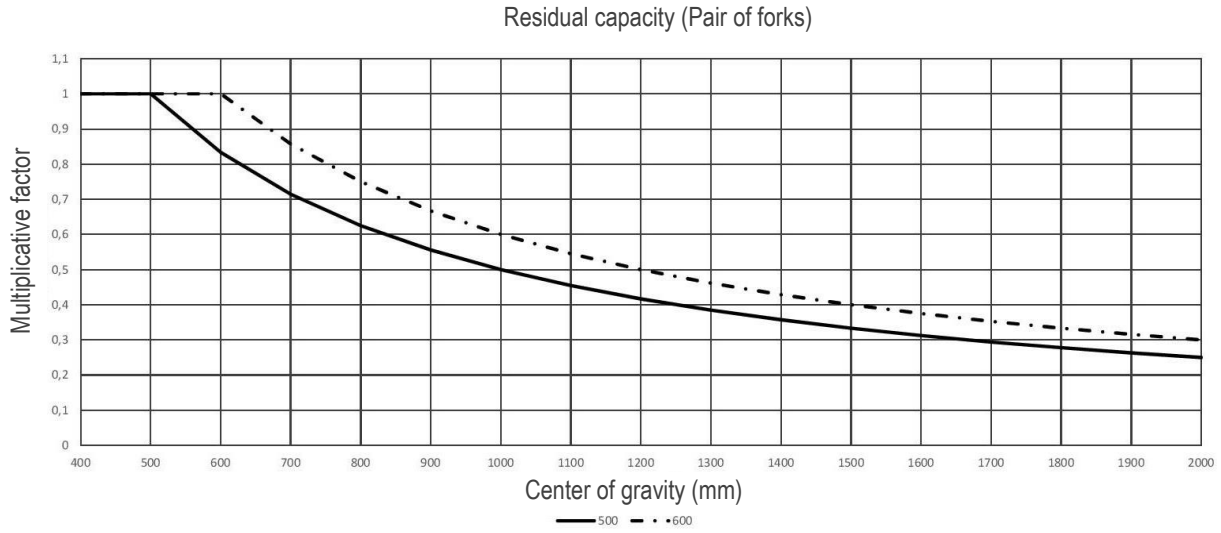
Every ATIB attachments are projected and constructed according to a load positioned (as regards its centre of gravity) at a certain distance from vertical part of the fork.

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 18*, 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 18

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

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.

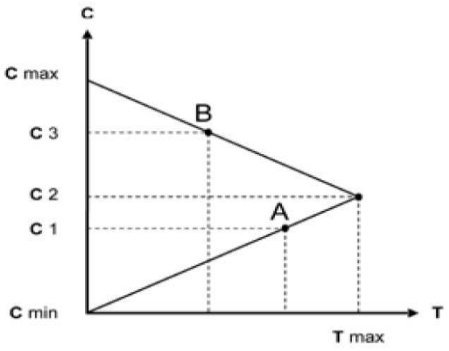
Check label of the forklift (Directive 2006/42/CE).

5.1 Integral side shift

It is one most frequently used in the WIDE OPENING FORK POSITIONER TYPE 883 and uses the same cylinders that translate the forks. The stroke depends on the opening and will be equal to zero in maximum opening and minimum closing. **Since the stroke of the equipment can be higher than that defined by the standards on the stability of the forklift (100 + 100 mm up to 6300 Kg of capacity and 150 +150 mm for higher capacities) it could therefore generate problems on lateral stability and premature wear of the must profiles, it will be necessary to check the applicability with the forklift manufacturer.**

The sideshifting with a determined load will be the minimum value between the following two:

1. Maximum opening (A max) minus load width (Lc) divided by two. [(A max – Lc) / 2]
2. Load width (Lc) minus minimum opening (A min.) divided by two. [(Lc – A min) / 2]



T	Sideshift	A = (C 1 - C min) / 2
C	Measuring range	B = (C max - C 3) / 2
A	Position before half opening	T max = (C max - C min) / 4
B	Position after half opening	C2 = (C max + C min) / 2

Picture 19

The sideshifting outside the center of the load is only allowed on the ground. In this case a loss of force could occur with consequent possibility of load loss. As a precaution it can be considered that the center of gravity of the equipment moves laterally by the translation value (per part). If the precise value is required, the manufacturer of the equipment must be consulted.

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 *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 *Picture 4* (pag.*14*) and *Picture 8* (pag.*14*) and, if necessary, intervene on the tightening of the screws that support them.
4. Check the correct tightening of the locking screws of the fork holder, and, if necessary, intervene on the tightening of the latter.
5. Clean and lubricate all sliding parts (*Picture 28* and *Picture 29* pag. *36*).

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. 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 (*Punto 6.1* and *6.2* pag.*25*).

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* pag.*35*.

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*, and point *6.2*, *6.3* pag.*25*).

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

7 DISASSEMBLY PROCEDURE

7.1 Disassembly attachments from forklift

1. Relieve the pressure of the hydraulic system.

2. Remove the forks, following the operations indicated in the fork's installation phase and attachment installation in reverse.

3. Unscrew the lower hooks of equipment (*Picture 2* and *Picture 6* pag.*9* and *13).*

4. For handling, use belts or chains appropriately sized for the weight of the equipment, indicated on the identification plate.

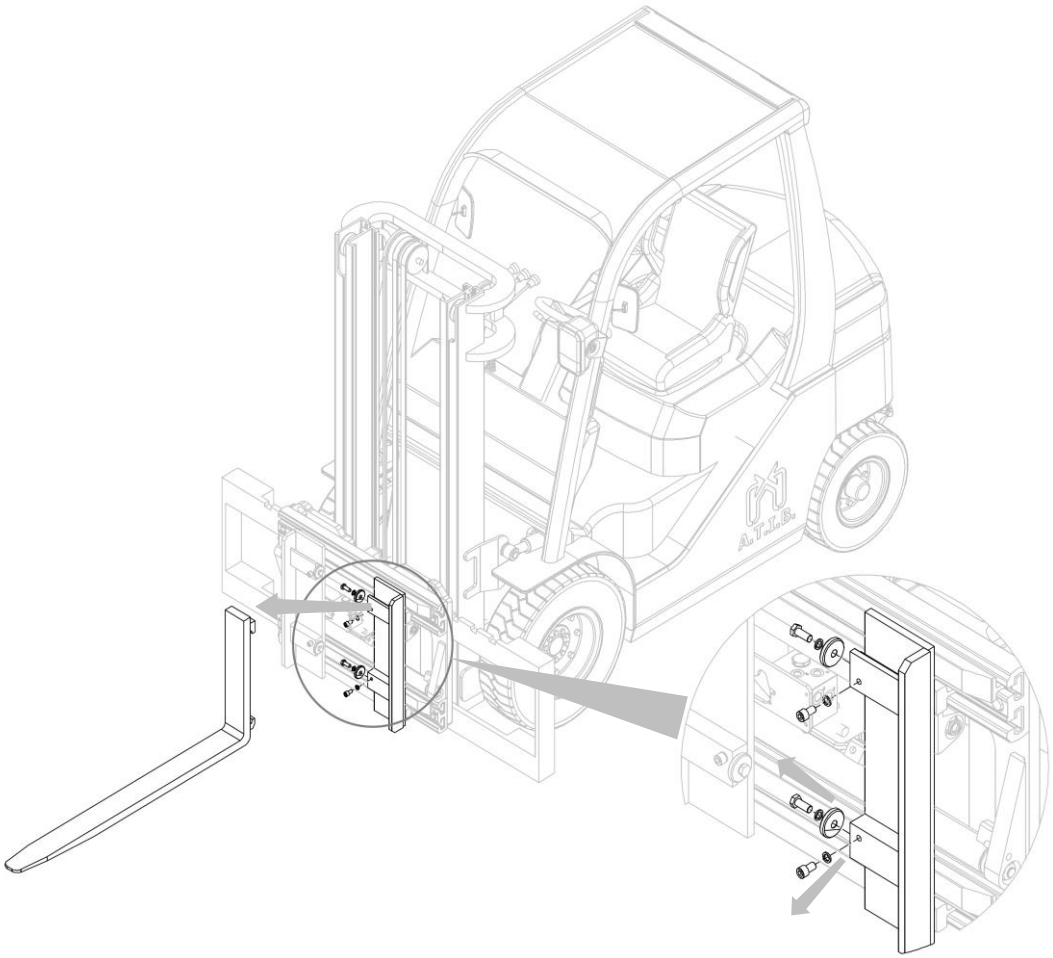
5. With an overhead crane or with a hoist of sufficient capacity hook the attachment and taking care to position the equipment correctly (*Picture 3* and *Picture 7 pag.10 and 13*).

7.2 Forks disassembly

7.2.1 Forks disassembly – TYPE “STANDARD”

TYPE “STANDARD”

1. Relieve the pressure of the hydraulic system.
2. Remove the forks after removing the fork holder (*Picture 20*).

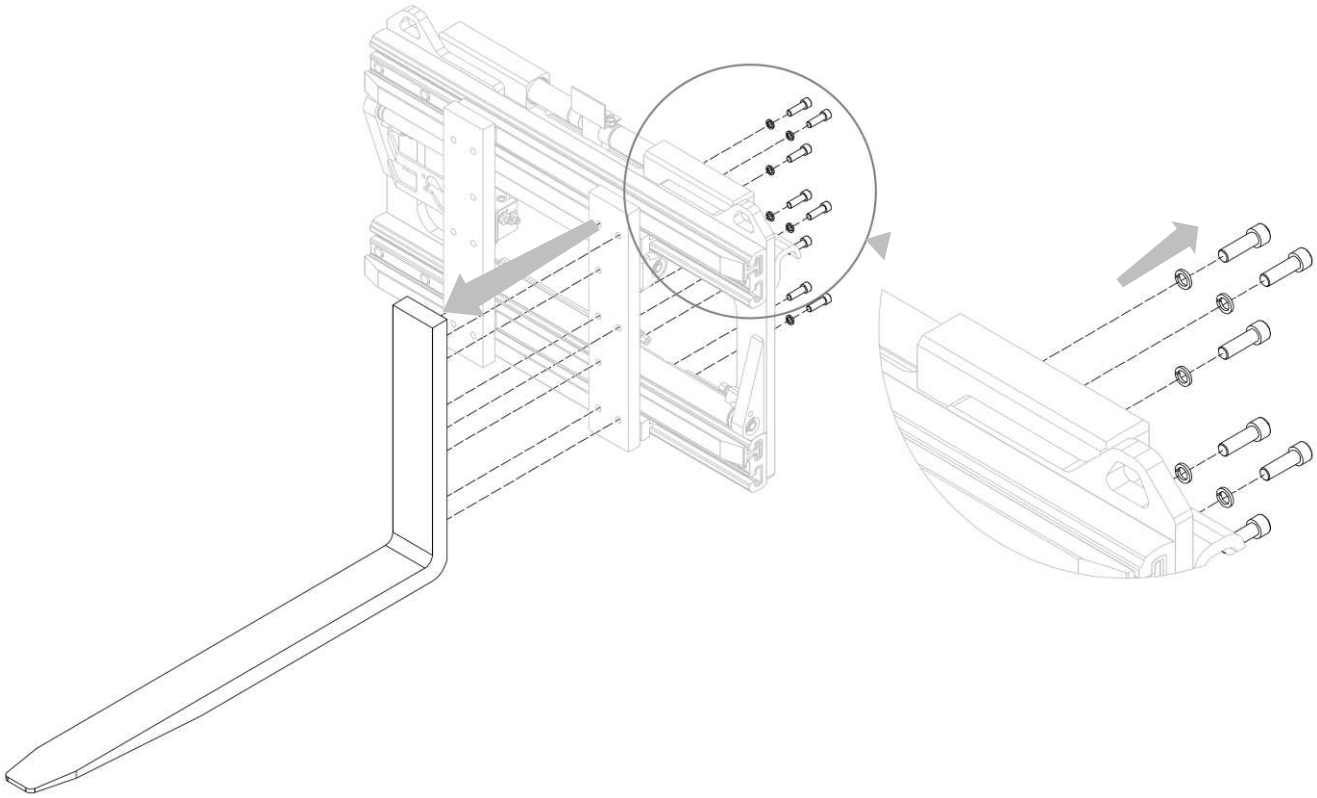


Picture 20

7.2.2 Forks disassembly – TYPE “FB”

TYPE “BOLTED FORKS”

1. Relieve the pressure of the hydraulic system.
2. Remove the forks after having unscrewed the relative screws that support them (*Picture 21*)

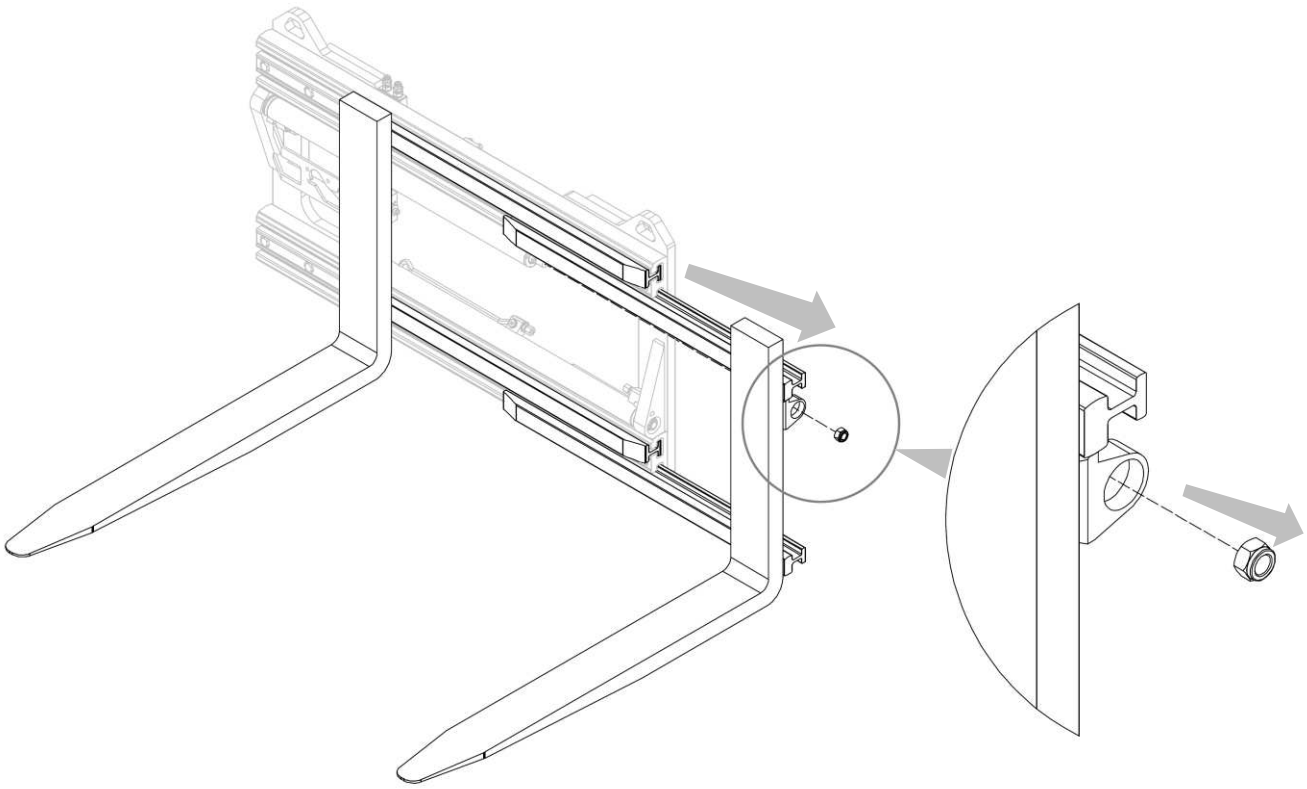


Picture 21

7.2.3 Forks disassembly – TYPE “FS”

TYPE “WELDED FORKS”

1. Relieve the pressure of the hydraulic system.
2. Remove the forks after having unscrewed the relative screws that support them (*Picture 22*).

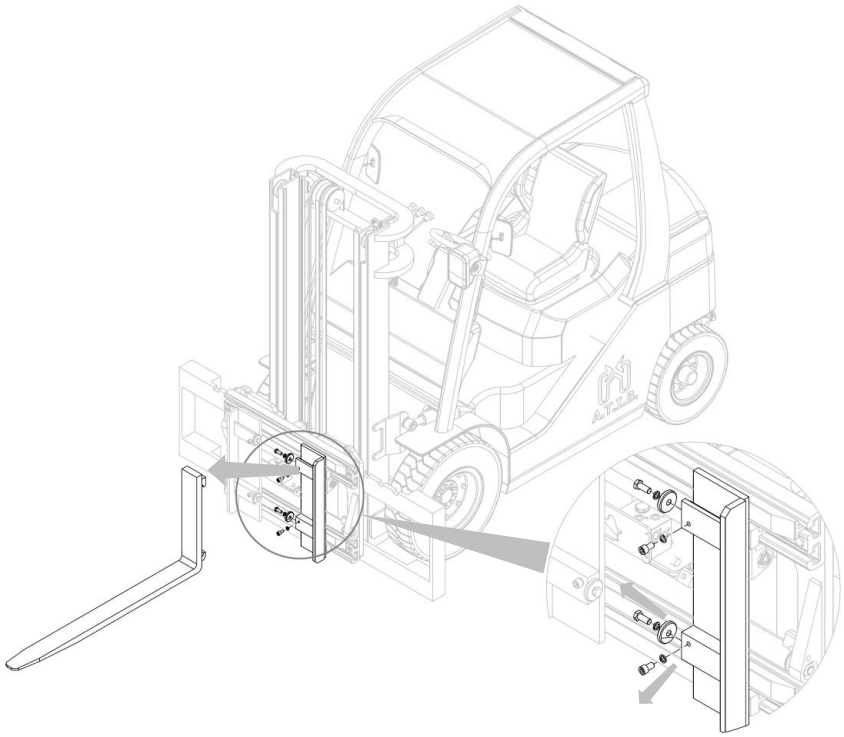


Picture 22

7.3 Removal of fork cylinders from the attachment

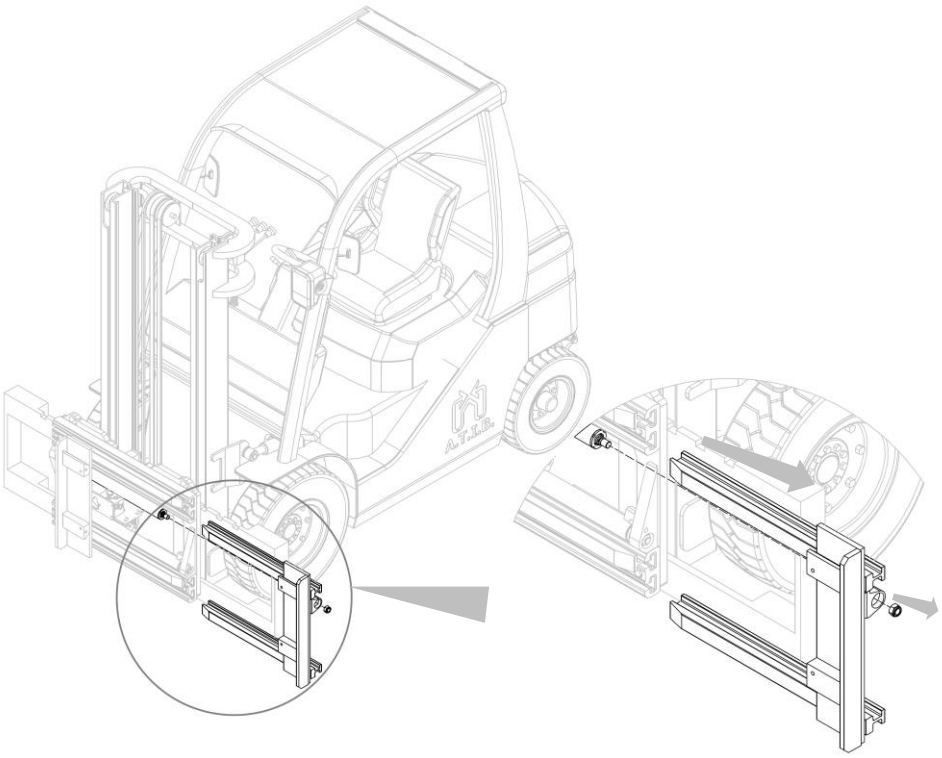
1. Relieve the pressure of the hydraulic system and disconnect the pipes.

2. Remove the forks after having unscrewed the relative screws that support them (*Picture 23*).



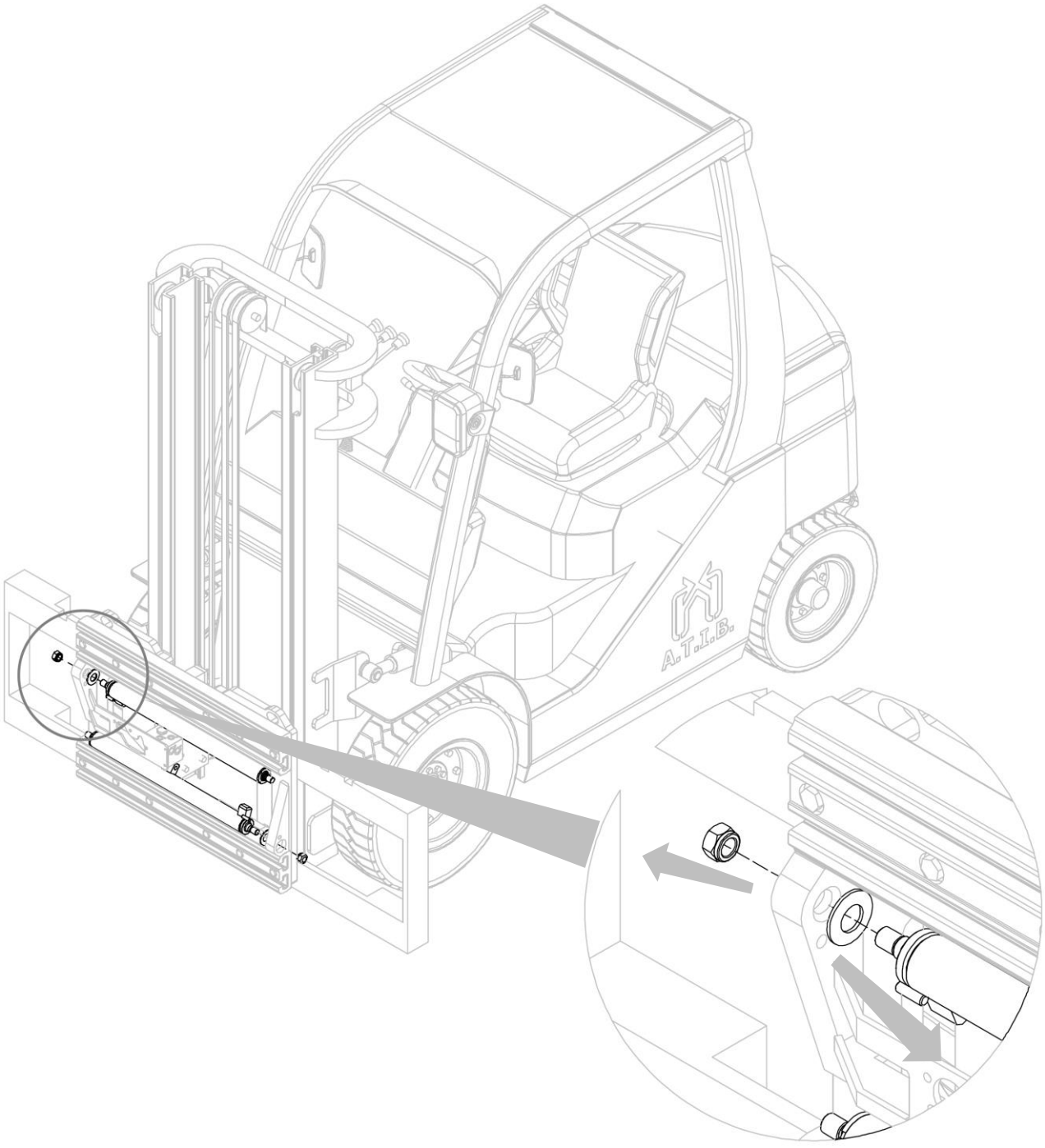
Picture 23

3. Remove the fork holder after unscrewing the appropriate nuts and fasten them to the cylinders (*Picture 24*).



Picture 24

4. Remove the cylinders from their seats after unscrewing the relative nuts (*Picture 25*).

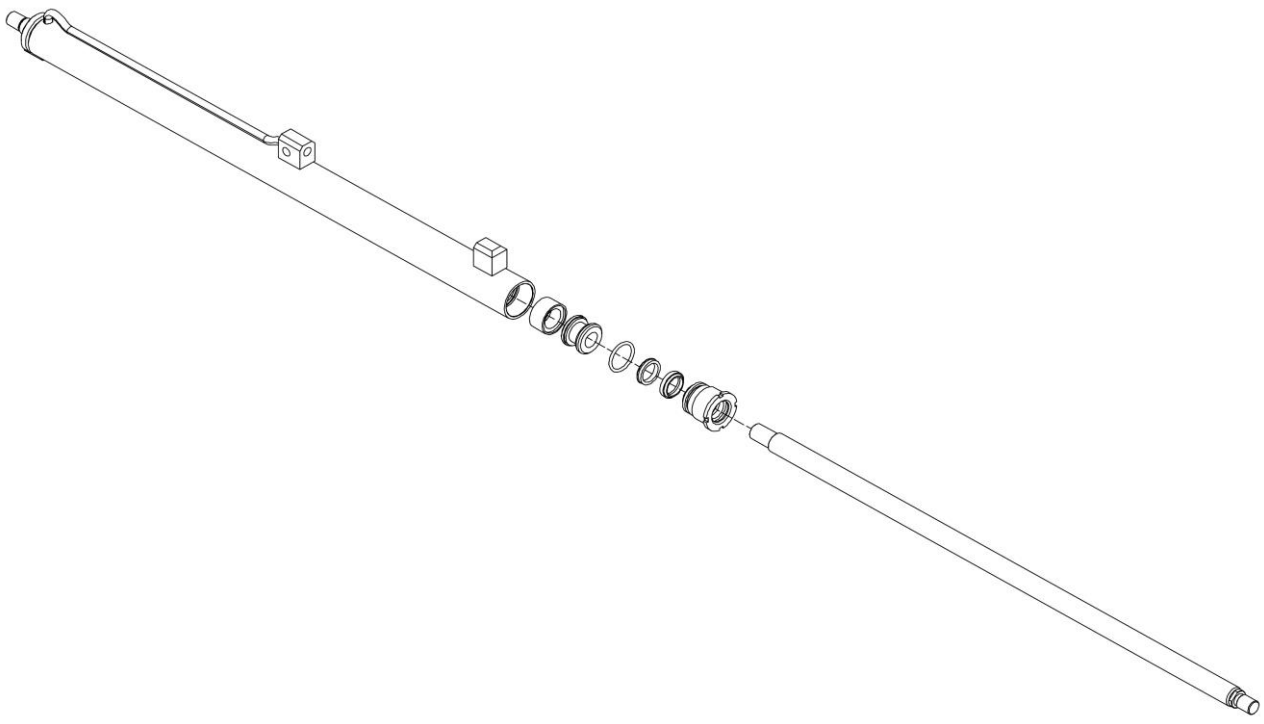


Picture 25

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:

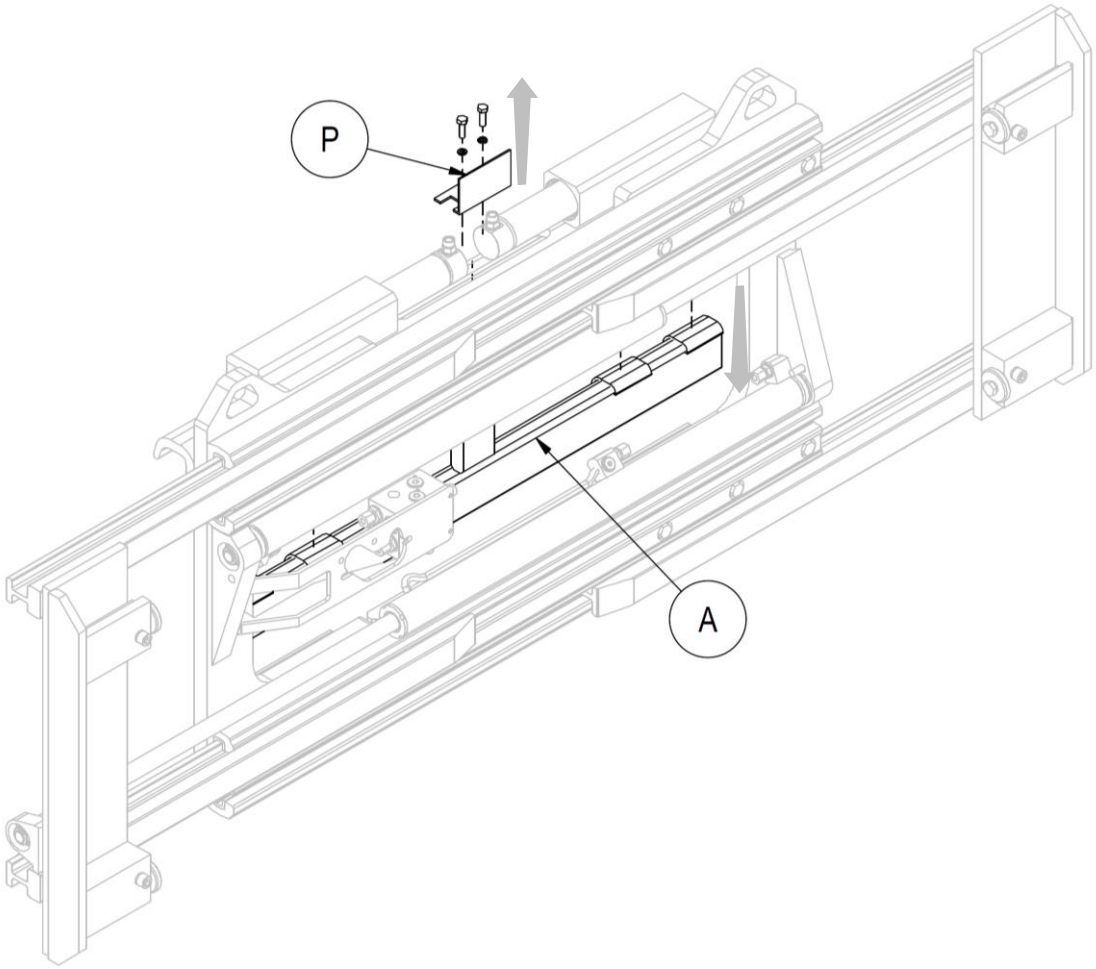
1. Clamp the cylinder in a vice with rubber jaws, taking care not to deform the housing).
2. Unscrew cap with a sector wrench.
3. If you find it difficult to unscrew the cap, it is necessary to slightly heat the area of the thread concerned to facilitate unscrewing.
4. Unscrew the stem.
5. Disassemble / separate the rest of the components and seals from each other (at this point it will be easy and intuitive).
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 26*.



Picture 26

7.4 Maintenance SLS cylinder

1. Relieve the pressure of the hydraulic system and disconnect the pipes.
2. Remove the attachments from forklift point 07.01 pag.*27*
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 27*.



Picture 27

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	Tighten the joints or replace them
	Leakage of oil from the pipes and joints	Disassemble and clean; if necessary, replace them
	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

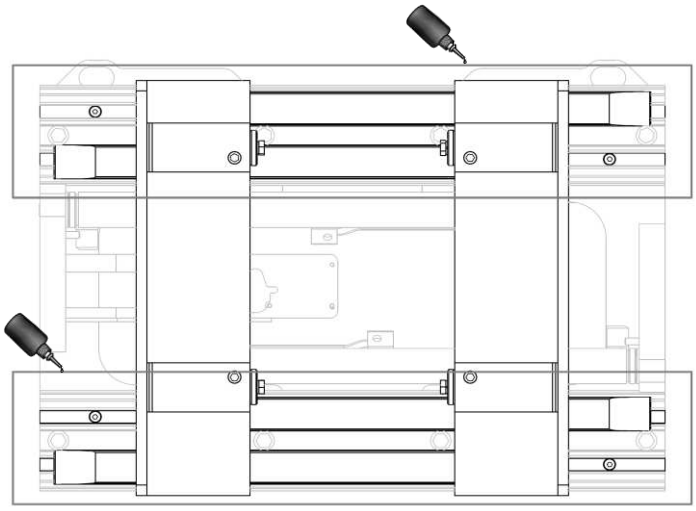
Tab 5

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

8.2 Lubricate

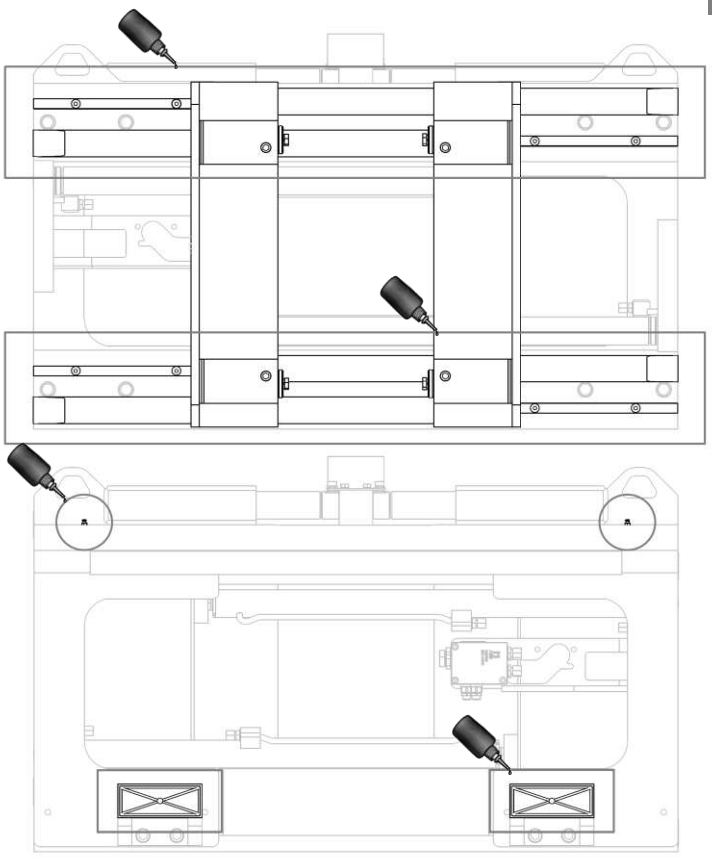
1. Lubricate the sliding parts using the special grease nipples.
2. Lubricate the slide and relative scroll bar.

TYPE 883



Picture 28

TYPE 883 WITH SLS



Picture 29

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

Via Quinzanese snc

25050 Dello (BS)

ITALIA

Tel: +39 030 9771711

info@atib.com

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