

# USER AND MAINTENANCE MANUAL



## Hydraulic Bottle Jack

**Art. 0062/2, 0062/5, 0062/10,  
0062/15, 0062/20, 0062/32, 0062/50**



TRANSLATION OF THE ORIGINAL INSTRUCTIONS

## PREFACE



**Please ensure you have read this manual before operation**

### TRANSLATION OF THE ORIGINAL INSTRUCTIONS

It is compulsory to read this instruction manual before starting operation. The assurance of smooth operation and full compliance of machine performance is strictly dependent on the rigorous application of all the instructions contained in this manual.



### Operator Qualification

The workers responsible for the use of this machine must have all the necessary information and instruction and should be given adequate training in relation to safety regarding:

- a) Conditions of use for the equipment;
- b) Foreseeable, abnormal situations;
- c) pursuant to art. 73 of Legislative Decree no. 81/08.

*We guarantee that the machine complies with the specifications and technical instructions described in the Manual on the date of issuance and listed herein; On the other hand, the machine may also be subject to important technical changes in the future, without the manual being updated.*

*Consult FERVI for information on any changes that may have been implemented.*



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# 1 INTRODUCTION

This manual is considered an integral part of the machine it was attached to at the time of purchase.

The manufacturer holds all ownership to material and intellectual property of this manual; any disclosure or copying, even partial, of this publication without prior written consent is forbidden.

The purpose of this manual is to provide the knowledge necessary for the use and maintenance of the **Hydraulic Bottle Jack (models 0062/2, 0062/5, 0062/10, 0062/15, 0062/20, 0062/32, 0062/50)**, and create a sense of responsibility and knowledge of the capabilities and limitations of the device entrusted to the operator.

Operators must be properly trained and prepared, so make sure that this manual is read and consulted by the staff responsible for the commission, operation and maintenance of the machine. This is to make all operations as safe and effective as possible for those who carry out these tasks. Therefore, it is imperative to strictly comply with the requirements in this manual, necessary for the safe and satisfactory operation of the Jack.

Before starting operation, installation and use of the machine, authorized staff must therefore:

- read this technical document carefully;
- know which protections and safety devices are available on the Jack, their location and how they work.

The buyer is responsible for ensuring that users are properly trained, that they are aware of all the information and instructions in this document and that they are aware of the potential risks of operating the Jack.

***The manufacturer will not be held responsible for any damage to people and/or property caused by non-compliance with any instructions in this manual.***

***Operators will be held fully responsible for any changes they have made to the machine; the manufacturer will not be held responsible for any damage to persons and/or property resulting from maintenance performed by unqualified personnel and in a manner that differs from the operating procedures shown below.***

The **Jack** has been designed and built with mechanical guards and safety devices designed to protect the operator/user from possible injury.

It is strictly forbidden to modify or remove guards, safety devices and caution labels. If this must be done (for example, for cleaning or repair), ensure that no one uses the machine.



## 1.1 Graphic representation of safety, operational and risk warnings

The following boxes are designed to attract the attention of the reader/user for the purposes of proper and safe use of the machine:



### **Attention**

This highlights behavioural rules to prevent damage to the machine and/or the occurrence of dangerous situations.



### **Residual Risks**

This highlights the presence of dangers that cause residual risks to which the operator must pay attention in order to avoid injury or damage to property.

## 2 GENERAL SAFETY WARNINGS

Even if you are already familiar with the **Hydraulic Bottle Jack**, you must read this manual carefully to acquire full knowledge of the machine and the general precautions to be observed during operation.



### Risks associated with using the machine

Despite the implementation of all the safety devices for safe use of the machine, it is necessary to take note of all the requirements for the prevention of accidents reported in various parts of this manual.



### Risks associated with using the machine

The machine must only be used by qualified personnel trained to use the machine by authorized personnel.



### Risks associated with using the machine

Every person responsible for machine operation and maintenance is required to have read the instruction manual first and specifically the chapter on safety instructions.

- Use the **Hydraulic Bottle Jack** exclusively for lifting
- Before lifting, make sure the Jack is in good condition. ***Do not adjust the safety valve!***
- Place the Jack on a flat, solid and durable work surface.
- Do not try to operate the machine at higher performance levels than those for which it was designed, ***in particular regarding the magnitude of the load to be lifted.*** In other words, do not load the Jack beyond its capacity.
- If you use the Jack to lift a vehicle, lock the wheels of the vehicle with the emergency brake.
- ***Always use a safety support, such as a tripod, to support the vehicle (load) in case you need to work under the vehicle (load).***
- It is recommended that users of this publication, for maintenance and repair, have a basic knowledge of mechanical principles and procedures inherent in repair technique.
- Replace worn or damaged parts and check that the repairs and protection devices work correctly before operating.
- Make sure that the work environment is forbidden to children and non-employees.

### 2.1 Technical assistance

For any problems or concerns, please contact, without hesitation, the Customer Service Department, which has competent and specialised staff, specific equipment and spare parts.

### 2.2 Other provisions

The first thing to do when starting work is to check the presence and integrity of the protections and the operation of the safety devices.

***If any defect is detected, do not use the Hydraulic Bottle Jack!!!***



### 3 INTENDED USE AND DESCRIPTION OF THE JACKS

The Jacks, models **0062/2**, **0062/5**, **0062/10**, **0062/15**, **0062/20**, **0062/32** and **0062/50**, are machines designed for lifting / lowering loads, and in particular vehicles for the usual operations of maintenance and/or repair.

The Jacks must be used on supporting surfaces that are flat, smooth, and adequately strong and hard (capable of supporting the weight of the Jack plus the maximum nominal load capacity).

The operating temperature is within  $-20/+50^{\circ}\text{C}$ .

The working environment must also be sufficiently well lit to ensure maximum operational safety (at least 50 lux is recommended).

***Other types of use, or the extension of use beyond that envisaged, does not correspond to the designation attributed by the manufacturer, and therefore the latter cannot accept any responsibility for any damage resulting from improper use.***

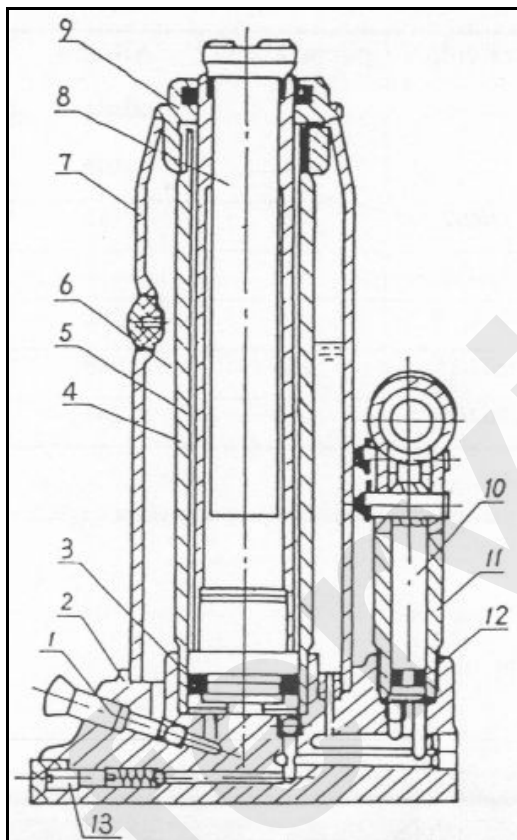


Figure 1 – Section view of the machine



Figure 2 – General view of the machine

- 1** Vent valve
- 2** Base
- 3** O-ring (cylinder)
- 4** Hydraulic cylinder
- 5** Guide tube
- 6** Hydraulic oil
- 7** Oil tank
- 8** Piston rod
- 9** Upper cap

- 10** Piston pump
- 11** Pump body
- 12** O-ring (pump)
- 13** Safety valve
- 14** Lever coupling
- 15** Plate
- 16** Plunger
- 17** Handle

The **Hydraulic Bottle Jack** comprises (see figures 1 and 2):

- a support base (2) made of steel in a quadrangular shape;
- a lifting unit composed of the hydraulic lifting cylinder (4) and the oil tank body (7);
- a pumping unit consisting of the piston pump (10) manually operated;
- a vent valve (1) for adjusting the lowering speed of the piston rod (8) of the cylinder (4);
- a maximum pressure valve (13) which constitutes a safety device against overloads;
- a handle (17) for the grip for the purpose of moving and transport (on the 15 ton and 20 ton versions).

The control system of the Jack therefore, consists of:

- the piston pump (10) that, once operated, allows the extension of the piston rod (8) of the hydraulic cylinder (4), i.e. the lifting of the load;
- the vent valve (1) that, once opened, allows the return of the piston rod (8) of the hydraulic cylinder (4), i.e. the lowering of the load;

In this regard, for a more detailed explanation, see Chapter 8 of this manual "MACHINE OPERATION").



### 3.1 Safety devices

The main safety device present on the machines is the **load limiter**, consisting of a **maximum pressure valve** (see component No. 13 in Figure 1 and in Figure 2), which protects the jack against overloads. This valve ensures that the pressure inside the hydraulic circuit can not exceed the fixed set value determined by the maximum rated load capacity.



#### Load limiter

Under no circumstances should the adjustment of the maximum pressure safety valve be carried out by the operator.

Other safety devices include:

- the plunger (16) on the piston rod of the hydraulic lifting cylinder, designed so that the friction and the "grip" with the load are maximised (see Figure 3). The hydraulic bottle jacks 0062/32 and 0062/50 are provided with a non-slip plunger with a different design.
- the gripping handle on the body of the oil tank for movement and fixed or oscillating transport (starting from the 10 ton version, ref. 17 in Figure 1).



Figure 3 – Close-up of plunger.

### 3.2 Identification Plate and Pictograms

#### 3.2.1 CE Marking

The identification plate of the machine is attached to the body of the oil tank (see component No. 15 in Figure 1).



Figure 4 -Plate for model 0062/20.

The plates of the remaining models (0062/2, 0062/5, 0062/10, 0062/15, 0062/32, 0062/50) are identical to the one above, except for the plate data which is as follows:

	Article	Capacity (t)
<b>0062/2</b>	0062/2	2
<b>0062/5</b>	0062/5	5
<b>0062/10</b>	0062/10	10
<b>0062/15</b>	0062/15	15
<b>0062/20</b>	0062/20	20
<b>0062/32</b>	0062/32	32
<b>0062/50</b>	0062/50	50

### 3.2.2 Maximum rated load capacity

The **maximum rated load capacity** that the Jack can lift under standard conditions is indicated on the plate, i.e. when:

- it is in good conditions of efficiency and conservation;
- it operates within the permitted temperature range and ambient conditions;
- is applied to a flat, hard and durable surface.

For a more detailed explanation on how to use and load the Jack, refer to Chapter 8 of this manual "MACHINE OPERATION".

***The maximum rated load capacity must never be exceeded!!!***

### 3.2.3 Information on operation and residual risks

The following pictogram can be found on the back of the Jack that summarizes the main operating instructions and provides some information on the residual risks associated with the use of the Jack (see Figure 5).

**OPERATION**

1. FOR LIFTING: BEFORE PUMPING, ROTATE THE RELEASE VALVE AT THE BASE OF THE JACK CLOCKWISE.
2. FOR LOWERING: SLOWLY ROTATE THE VALVE ANTI-CLOCKWISE (MAXIMUM 1/2 TO 1 TURN).
3. TO ADD OR REPLACE THE OIL: PUSH THE PISTON ALL THE WAY DOWN, REMOVE THE PLASTIC CAP ON THE SIDE OF THE TANK AND INSERT THE OIL UP TO THE LEVEL WITH THE JACK IN A VERTICAL POSITION.

**ATTENTION**

- DO NOT USE OIL FOR BRAKES.
- ONLY USE THE JACK TO LIFT YOUR VEHICLE. IN THE EVENT YOU NEED TO WORK UNDER THE VEHICLE, INSERT SPECIAL TRIPODS FOR INCREASED SAFETY.
- ONLY USE HYDRAULIC MINERAL OIL



**Figure 5 – Close up of the pictogram on the back of the jack.**



## 4 TECHNICAL SPECIFICATIONS

<b>Description (unit of measurement)</b>	<b>0062/2</b>	<b>0062/5</b>	<b>0062/10</b>	<b>0062/15</b>	<b>0062/20</b>	<b>0062/32</b>	<b>0062/50</b>
Loading capacity (kg)	2,000	5,000	10,000	15,000	20,000	32000	50000
Minimum height (mm)	181	220	230	230	242	285	300
Lift (mm)	116	127	150	150	150	180	180
Adjustment (mm)	48	70	80	80	60	-	-
Weight (kg)	2.7	4.3	6.5	8.4	11	23	33.2

## 5 IMPROPER USE AND HAZARDS

The following actions described, which obviously can not cover the entire range of potential possibilities of "misuse" of the machine, are to be considered **strictly prohibited**.



### **IT IS STRICTLY FORBIDDEN!!!**

- To lift persons and/or animals that could fall;
- To lift loads while there are people near the machine;
- To work under loads only lifted by the jack without using additional safety supports, such as a tripod.
- To lift loads heavier than the maximum rating indicated on the plate;
- To lift vehicles without applying the brakes to the wheels correctly;
- To lift unbalanced loads, or change their static configuration, and/or their centre of gravity;
- To lift "dangerous" loads (molten metals, acids, radioactive materials, fragile and/or brittle loads);
- To load the jack on uneven polished surfaces and/or surfaces that are not strong enough to support the load (jack + maximum rated load capacity);
- To use the jack when there is a possibility of the load moving accidentally;
- To leave the loaded jack unattended;
- To allow untrained staff to use the jack;
- To operate the jack if you are not psycho-physically fit;
- To operate the jack without due attention;
- To operate the jack for purposes other than those for which it was designed;
- To use the jack in unforeseen environmental conditions (adverse weather conditions, refrigerators, high magnetic fields, etc.);
- To use the jack in potentially explosive environments;
- Use the jack in the event of insufficient light;
- To use the jack on ships at sea;
- To put the jack in contact with foodstuffs.



## 6 TRANSPORTING, LIFTING AND MOVING

The lifting of the Jack, for transport purposes, can be done manually, by one or two people, depending on the model to be transported. The relatively low weight of the machine (up to 32 kg for the 50-ton version) allows it to be moved manually and safely without the danger of injury to the operator.

When lifting and moving the jack, the operator will have to hold it with both hands, possibly using the gripping handle (found in versions 0062/15 and 0062/20, 0062/32 and 0062/50, see component No.17 in figure 1).

## 7 COMMISSIONING

### 7.1 Unpacking instructions

The Jack is supplied in a cardboard box, with the lifting lever disassembled. Before disposing of the cardboard packaging, check that no parts of the machine, the user manual or any other documentation are thrown away.



#### Standard packaging

Packaging materials (plastic bags, polystyrene foam, etc.) must not be left within reach of children as these are potentially dangerous.

### 7.2 Assembling the lifting lever

To assemble the lifting lever for the Jack, proceed as follows:

1. Remove the two plastic caps that hold the lifting lever pieces together (see Figure 5);
2. Insert the narrower piece of the lever inside the wider piece until it locks (see Figure 6).  
This is possible due to the slightly conical shape of the two pieces of the lever.



**Figure 6 – Disassembled lever.**

## 8 MACHINE OPERATION



### Lifting loads

There is a risk of crushing and/or grazing body parts while lifting heavy loads as a result of mishandling. Workers must be equipped with standard safety equipment, especially gloves and crush resistant safety shoes.



### Lifting loads

Workers involved in load lifting must operate the machine carefully, without abrupt movements and pay the utmost attention. In particular, the jack and load must be kept under constant control during movement.



### Working under loads

Working under a lifted load ALWAYS entails a residual risk of the load falling accidentally. In this regard, IT IS STRICTLY FORBIDDEN to operate under a load lifted only by the jack. Always insert a safety support (of suitable capacity) under the load before operating below it (for example a tripod).

### 8.1 Lifting a load

1. With the narrow part of the lifting lever, close the vent valve by turning it clockwise (see Figure 7).



**Figure 7 – Closing the vent valve.**



1. Place the Jack under the load in a suitable position for lifting. In the case of a vehicle it is recommended, for example, to refer to the relative user manual.
2. If necessary, on models up to 20 tons, unscrew (rotate anti-clockwise) the plunger on the piston rod of the lifting cylinder, until it touches the bottom of the load (see Figure 8).
3. Insert the lifting lever into the coupling on the pump.
4. Pump until the desired height is reached (see Figure 9).



Figure 8 – Plunger adjustment.



Figure 9 – Pump for lifting.

## 8.2 Lowering a load

1. With the narrow part of the lifting lever, open the vent valve by turning it anti-clockwise (see Figure 10).

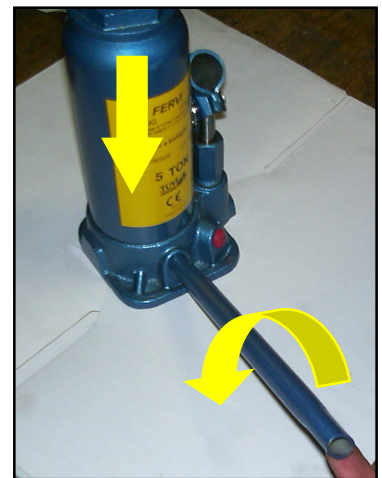


Figure 10 – Opening the vent valve.



### Vent valve adjustment

Rotate the vent valve 1/2 turn and never more than one full turn.

2. When the piston rod is fully lowered, remove the Jack. If the plunger is raised on the piston rod, not allowing the jack to be pulled out from the bottom of the load, turn it clockwise to lower it (only for models up to 20 tons).

## 9 MAINTENANCE

The purpose of this chapter is to provide all the information on maintenance procedures and frequency required for the **Hydraulic Bottle Jack**.

**Maintenance and repairs must be performed by qualified personnel.**

### 9.1 Ordinary maintenance

ACTION	Frequency		
	Daily	Weekly	Monthly
1. General visual inspection	X		
2. Check the legibility of the plates	X		
3. Verify the absence of leaks in the hydraulic circuit	X		
4. General cleaning		X	
5. Lubrication and greasing			X
6. Check the oil level and top up			X
7. Bleed air from the hydraulic circuit	If necessary		

- General visual inspection:** Check the general condition of the machine, if there are any damaged or missing parts.
- Check the legibility of the plates:** the plates and pictograms on the machine must be perfectly legible; it is therefore necessary to keep them clean and request a replacement if they are illegible.
- Verify the absence of leaks in the hydraulic circuit:** there can be no measurable accidental loss in the hydraulic circuit, except for slight moisture insufficient to form a drop.
- General cleaning:** cleaning is necessary to free the structure and moving parts from the accumulation of dust, dirt and stains caused by excess lubricants. Cleaning should be done with the use of means, equipment and detergents or solvents commonly used in the cleaning of industrial equipment.
- Lubrication and greasing** it is necessary to lubricate the moving parts of the Jack, namely the adjustment screw of the lift of the plunger, up to the 20-ton model (see Figure 11) the pins, hinges and levers on the pumping system (see Figure 12);



**Figure 11 – Plunger screw. Figure 12 – Pins and hinges of the pump.**



6. **Check the oil level and top up:** Check the oil level and if necessary top up with hydraulic mineral oil.
- Place the Jack in a vertical position;
  - Fully lower the pump and the lifting cylinder;
  - Remove the oil cap (see Figure 13);
  - Add hydraulic mineral oil. Fill up to the bottom edge of the opening;
  - Bleed the air in accordance with the instructions given in paragraph 7;
  - Replace the cap by exerting a pressure on it.

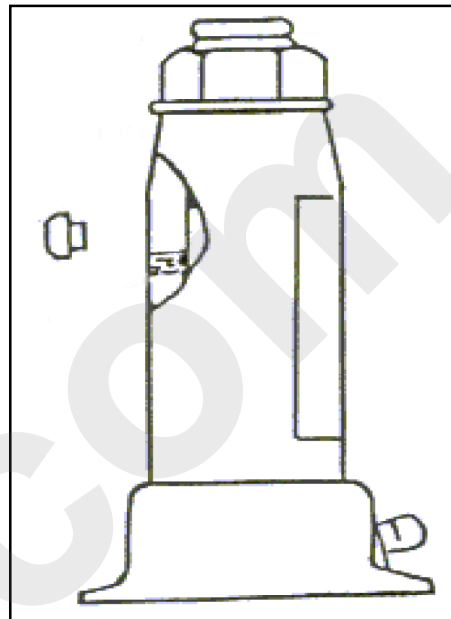


Figure 13 – Filling cap.



### Type of hydraulic oil

When you top up the hydraulic oil only use the oil type recommended by the manufacturer. Do not use brake fluid or engine oil.

7. **Bleed air from the hydraulic circuit:** To remove any air bubbles in the hydraulic system of the Jack, which could reduce its efficiency, follow these instructions:
- Open the vent valve by turning it anti-clockwise and remove the oil tank cap (see Figure 13);
  - Pump repeatedly to release the air;
  - Close the vent valve by turning it clockwise and replace the cap applying pressure to it;
  - Check that the Jack functions properly. If you still have problems, repeat the procedure or, if necessary, contact the Customer Service Department.

## 10 TROUBLESHOOTING

The following table shows the type of defect / problem, possible causes, and possible remedies for the malfunction. The table is a useful aid for the maintenance technician when looking for problems with the machine.

Fault	Cause	Solution
The jack does not lift the load.	The vent valve is not properly closed.	Close the vent valve.
The jack lowers when pressure is applied.	The vent valve is not properly closed.	Close the vent valve.
The lifting lever fails to raise under the weight of the load.	The valves are not closed properly, or there is a foreign body in the valves.	Clean the valves. To do this, lower the piston rod of the jack, close the vent valve, raise the jack's piston rod with your hands and then open the vent valve and lower the piston rod quickly.
The pump is weak.	Low oil level.	Add hydraulic oil.
The oil leaks from the tank.	Tank overflow.	Remove the excess oil.
The jack does not lift to the maximum height.	Air bubbles in the hydraulic circuit.	Purge air in the hydraulic circuit.

## 11 WAREHOUSE STORAGE

In the event that the machine should be stored and unused for some time, proceed as follows:

- Keep the piston rod, the pump and the plunger lowered;
- Keep the vent valve slightly unscrewed;
- Lubricate all parts of the jack;
- Store the jack indoors in a dry location.



## 12 DECOMMISSIONING

Disassembly and disposal of materials and components

If the machine is to be scrapped, its parts must be differentiated for disposal.



### **Respect the environment!!**

Contact a specialist centre for the collection of metallic materials.

The structure of the jack is made from steel while some seals are made from polymeric material. The pump and the tank contain hydraulic oil. In this regard, differentiate the materials according to their nature, with the assistance of specialist companies authorized for waste disposal, in compliance with the requirements of the law.

