Pro-Tech TOOLS

Mobile hydraulic hoist 2,5t



Instructions for use

Translation of the original instructions

GENERAL SAFETY RULES

• Read the instructions before starting work.

• The device should be used by persons who have read the instructions.

• Familiarize yourself with the possible hazards that can arise when working with the hoist.

• Use the device with care.

• The hoist can be loaded with a maximum weight of 2.5 tonnes.

• The hoist should be placed on a level and stable base.

• Before each use, inspect the lift pump for proper operation, leaks or loose connections. Any irregularities found are grounds for not starting work.

• Use only original spare parts.

• Regularly carry out detailed inspections of the hoist.

• Keep the labels on the equipment clean and make sure they are visible.

• Use of the hoist contrary to the instructions may result in an accident or .

• The manufacturer is not liable for any damage or accidents caused by improper use.

• When lifting, do not use wooden blocks for support or directly on the jack saddle, this can cause a serious accident!

• When the vehicle is on the hoist, do not move or it, after placing the vehicle on the designated supports check stability.

• Once the lifting process is complete, support the vehicle with suitable stands.

• Do not get underneath a jacked up car unless it is supported by the correct mounting stands.

• Secure the vehicle by locking the vehicle wheels with suitable chocks to prevent the vehicle from moving.

• Before lifting the car, centre the load on the jack saddle.

• Positioning the vehicle off the centre of gravity can cause the vehicle to fall or damage the jack.

• When starting up, make sure that there is no person or object under the vehicle.

• Slowly start the vehicle.

IMPORTANT: The lowering speed is regulated by the unloading valve, its sudden opening will cause a drop burdens.

• Do not use the jack as a support, for example on the bumper of a car, as it can slip, which can lead to a serious accident.

• Wear protective gloves and goggles when working.

• Do not use the device if you feel tired or if you are under the influence of alcohol or other drugs, some painkillers.

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• Do not lift the vehicle if there are still passengers inside!

• Before starting to lift the vehicle, read the vehicle owner's manual, where the lifting instructions given define the exact body support points provided by the manufacturer.

• Use only the factory tie-down points for lifting the vehicle.

• Before lifting the vehicle, carry out a visual inspection of the factory lifting points, look for signs of corrosion or paint flaking, if corrosion points are found be particularly careful, this may weaken the structure and prevent the vehicle from being lifted.

• When lifting a vehicle showing signs of corrosion at the factory designated locations, constantly observe the behaviour of the vehicle structure, if any deflection or characteristic crunching is detected, the lifting must be stopped.

WORKPLACE

• The work area with the hoist should be level and dry.

IMPORTANT: Remember that the nature of the hoist operation causes the hoist to move towards the load as it is lifted.

This is why the surface on which the hoist operates is so important, lifting a load on a seemingly flat cobblestone, for example, will result in the rear swivel wheels breaking if they lock up.

• There should be order in the workplace.

Workplace clutter is the most common cause of accidents.

• No third parties should be allowed on the workplace, especially persons who are not familiar with these instructions, as well as children or animals that are dangerous.

• Only a person trained in hoist operation and local health and safety regulations should have access to the equipment.

• Ensure that the workplace is well lit.

• Do not work in bad weather conditions.

• The hoist is designed to work inside rooms, halls or garages.

• The workplace must allow freedom of movement, remembering that the jack must be retracted under the car and
the handle can be moved. The distance to the nearest wall or other vehicle should not be less 1 m from the vehicle being lifted.

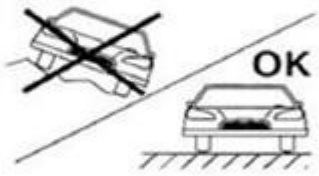
• The load capacity of the surface must be sufficient, remember that the weight of the vehicle is transferred through the small contact points between the wheels and the ground, the force acting on them is considerable.



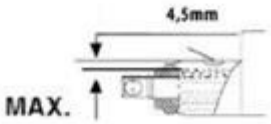
Never stay under a raised vehicle.



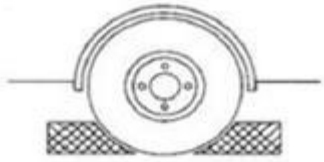
Never use a hoist to lift or stabilise caravans or other building structures.



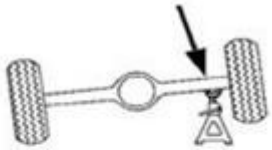
It is strictly forbidden to lift the vehicle on or off a slope on a flat, unpaved surface! The vehicle may only be lifted on a level and firm surface.



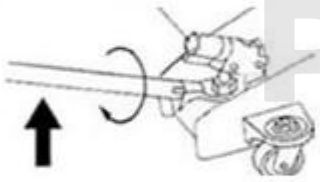
Too low an oil level limits the operating range of the hoist and its ventilation.



Before starting the lifting process, the wheels of the non-lifting axle must be locked to prevent the vehicle from slipping off the hoist.

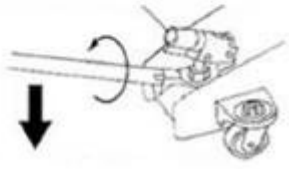


Once the load has been positioned, secure the vehicle with workshop stands, selecting the point provided by the vehicle manufacturer to support it.



It is necessary to block the unloading valve before lifting, it is not it needs to be tightened "forcibly", the oil channel is sealed with a rubber O-ring, tightening by force leads to crushing. , locking the valve.

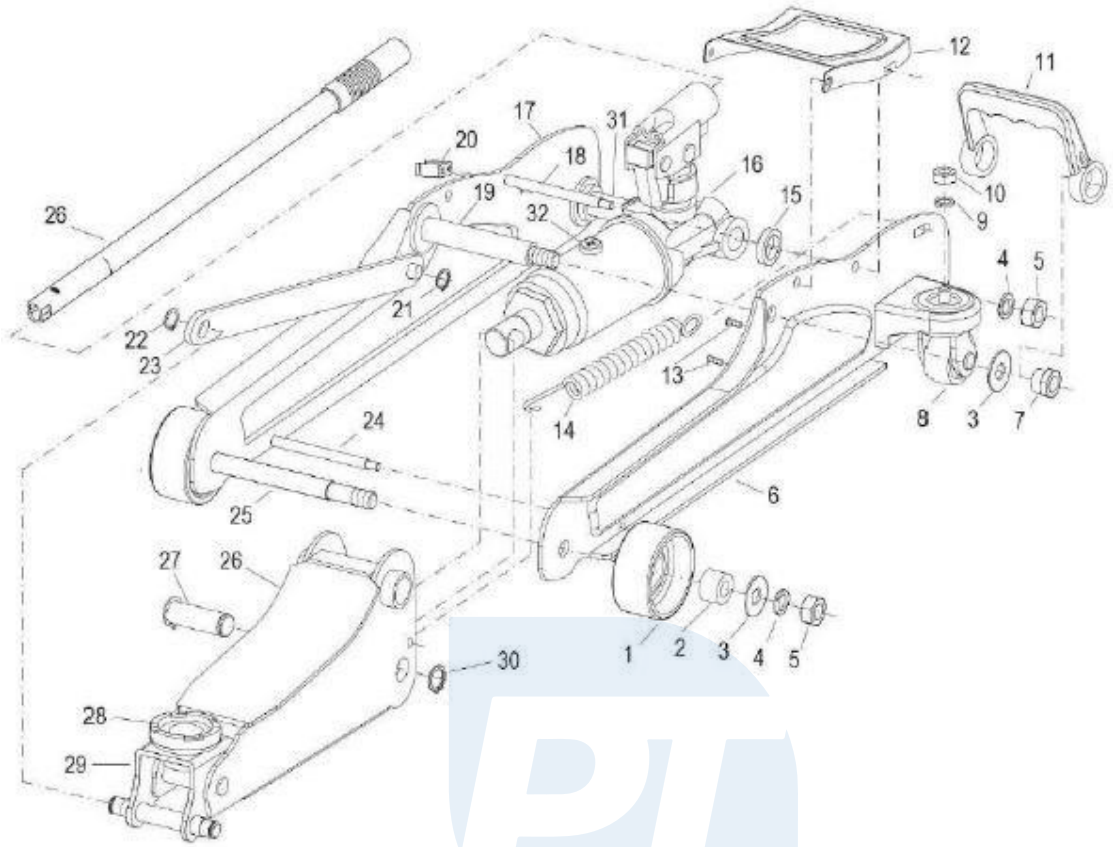
To release the load, release the safety valve. NOTE: The degree of unscrewing of the valve determines the rate at which the load drops. Loosen the valve as little as possible while maintaining the rate of lowering. Counterclockwise, unlock the valve.



PRINCIPLE OF OPERATION

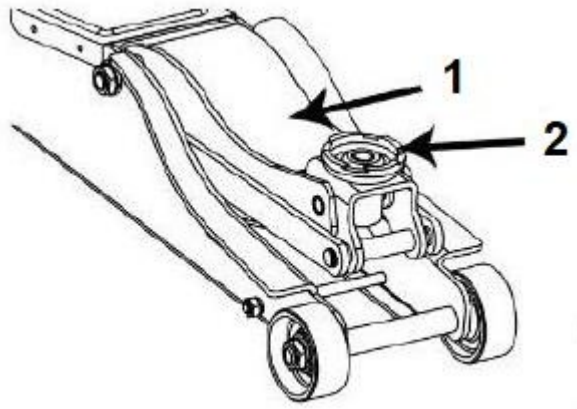
While the pump is moving with the discharge valve closed, oil is pumped from the reservoir into the piston chamber. The increase in pressure pushes the hydraulic
piston up, thus lifting the load, the relief valve keeps the hydraulic oil in the piston cylinder. Unscrewing the drain valve returns the oil to the reservoir and thus the load drops.

HOIST DESIGN



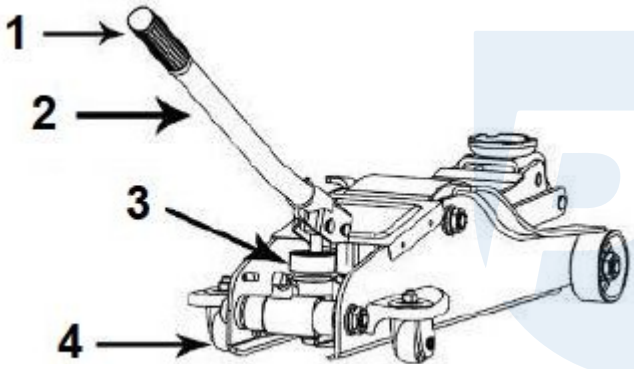
1	Front wheel	17	Right frame
2	Clamp	18	Extending frame shaft
3	Pad	19	Shoulder axis
4	Flexible washer	20	Safety buckle
5	Mother	21	Locking ring
6	Left frame	22	Cantilever retaining ring
7	Mother	23	Arm holder
8	Rear wheel assembly	24	Lower frame expansion shaft
9	Flexible washer	25	Front wheel axle
10	Mother	26	Lifting handle
11	Carrying handle	27	Shoulder axis
12	Cover	28	Jack saddle
13	Screw	29	Saddle base
14	Return spring	30	Locking ring
15	Clamp	31	Axis of the base
16	Drive assembly	32	Vent/fill plug

Description of the functional elements of the hoist

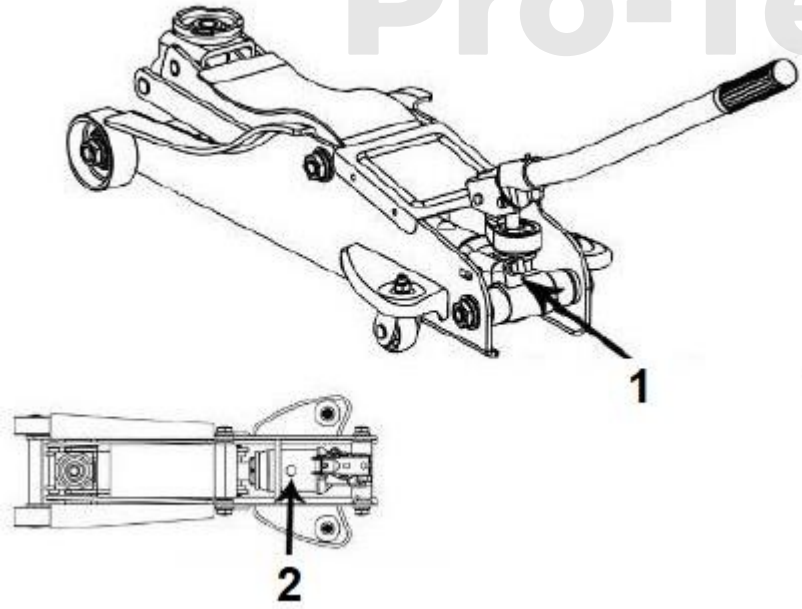


1. Lifting arm

2. Saddle



1. **Handle grip**
2. **Handle**
3. **Pump piston Swivel**
4. **wheels**



1. **Safety valve**
2. **Oil filling opening**

FIRST USE

• Familiarize yourself with the equipment, visually inspect the overall condition of the equipment.

• Tighten the drain valve ().

• Insert the attachment into the pump handle and pump up and down several times to the maximum height.

• Unscrew the drain valve, the stroke will drop to the lowest position, if all is , you can proceed to the target lifting of the car.

• If the jack does not reach its maximum height, it may be necessary to top up the hydraulic oil (maintenance chapter).

• If the hoist moves up and then down, the system must be vented (maintenance chapter).

WORKING WITH A HOIST

IMPORTANT: Lifting can only start under the following conditions:

1. The user has read and understood the contents of this manual.

2. The user is aware of the risks associated with working with the hoist.

3. The user has read the manual, especially with information about lifting the vehicle.

4. The user has checked the anchorages specified for the type of vehicle.

5. The user has inspected the hoist in full operation.

6. Before removing the wheel it is recommended to practice lowering the vehicle to "feel" the unloading valve work, the degree of unscrewing determines the speed of the fall!

7. The vehicle is secured against spontaneous movement, parking brake applied and gearbox locked, position P for automatic gearboxes, 1st gear for manual gearboxes.

8. The lifting point meets the floor load capacity requirements, the weight of the car is transferred to the small contact points between the jack wheels and the ground. On garage floor tiles that are not adapted to such
load, bursting may occur.

9. The user shall use appropriate personal protective equipment such as gloves and face protection.

When lifting, a large force is generated over a small area, and if the cover of a fulcrum, for example, breaks, the fragments can be ejected at high speed.

Lifting the vehicle

• Place the attachment in the pump handle.

• Slide the jack under the car.

• that the jack seat is correctly positioned under the vehicle, i.. the vehicle is raised through the points specified by the manufacturer.

IMPORTANT: The load must be positioned in the centre of the jack seat, if the load is not positioned in the centre, the load may slip or the jack seat may break off, resulting in damage to the frame!

• Close the safety valve.

IMPORTANT: It is not necessary to tighten it by force, this procedure crushes the rubber seal, accelerates its wear and makes it difficult to slowly lower the load, when loaded the valve opens with resistance, the need to apply great force to loosen it leads to its sudden unscrewing.

• Using the pump, start lifting and lowering.

IMPORTANT: When pumping, it is good practice to avoid the entire top of the pump. Violent upward jerking leads to kneading of the restrictor over a prolonged of time, resulting in accelerated wear of the hydraulic pump seals.

• Once the vehicle has been raised to the desired height, place the stands under the car.

WARNING: When working under the car, remember that the concept of "too much security" does not exist!

Even if the car is built on jack stands, you should additionally place the removable wheel under the car and leave the jack in to be an additional safety, lean its saddle against the lifting point, but do not increase the pressure in the system so that the workshop stand can carry the weight of the car.

IMPORTANT: The operating characteristics of the hydraulic jack make it impossible to hold the load! It is normal for the load left on the hoist to slowly sink.

That's why it's so important to keep the vehicle on jack stands!

Starting the vehicle

IMPORTANT: The vehicle can be started under the following conditions.

1. The wheels of the vehicle are properly secured and lowering the vehicle will not damage it.

2. No third parties, especially children and animals, are allowed in the work area.

• There are no obstructions in the axis of the hoist, remember that lowering the load will cause the hoist to move backwards. If the hoist wheel hits an obstacle, a dangerous situation can occur.

• Using a jack, lift the car slightly to allow the racks to slide out.

• Remove the stands and any objects under the car.

• Place the end of the handle on the safety valve.

• Turn the valve to the left to gently release the pressure in the system.

IMPORTANT: Extra caution is advised, remember that unscrewing the valve too quickly will cause the vehicle to crash. On a steep descent, panic closing of the valve can lead to overloading of the jack, it must be remembered that a descending vehicle is characterized by more weight than a static load.

IMPORTANT: Do not unscrew the valve more than , usually 1 turn max, unscrewing it more than this may lead to it unscrewing completely, which may result in leakage and
seal damage.

MACHINE MAINTENANCE

Proper maintenance of the hoist is essential for long, trouble-free and, above all, safe operation of the hoist. However, it should be remembered that the rubber elements used in the manufacturing process of the jack determine the maximum time
its use for 5 years. At the end of this period, the hoist must be rebuilt or disposed of in with local waste management regulations.

Maintenance can be started under the following conditions.

1. The user shall use appropriate personal protective equipment, gloves and face protection.

2. The user is familiar with local health and safety regulations and the contents of this manual.

3. The user is aware of the risks associated with the maintenance of the hoist.

4. All maintenance work may only be carried out on the workbench and the hoist must not be loaded.

Cleaning the hoist

A soft cloth and compressed air can be used to clean the jack. If you do not have access to compressed air, apply a small amount of soapy water to the cloth and clean the jack with it.

Pay attention to the area of the actuator piston and pump piston, to extend the service life of the elevator, it is necessary to
their perfect purity. Dirt on the piston will be drawn into the actuator when it is started, or will lead to it being pulled out, which in turn will lead to the system being unsealed.

The jack saddle must not be contaminated with oil, inadequate support or a slipping load on the saddle can lead to a dangerous situation and damage the jack frame.

Lubrication

All moving parts of the jack require lubrication, for this purpose you can use penetrating lubricants in aerosol. Another advantage of such measures is hydrophobicity, which protects moving parts from the damaging effects of moisture. Be sure to degrease the jack handle and seat after lubrication.

Apply a very small amount of the product to the joints of the frame with the pins and the lifting arm. Wipe off any excess that has not seeped into the gap with a cloth.

Hydraulic pump and hydraulic piston do not require lubrication, applying lubricant to the actuator piston, or pump will lead to the accumulation of dirt in these places, which will have a negative impact on the service life of these elements.

HYDRAULIC SYSTEM MAINTENANCE

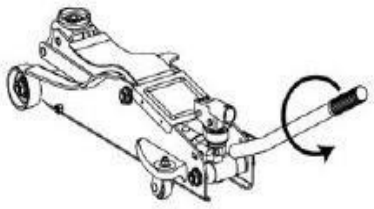
IMPORTANT: Before topping up the oil, make sure there is no significant oil leakage from the jack, the oil level may drop due to "sweating" of the actuator, this is normal. However, we cannot talk about
leaks or drops around the cylinder, such a defect should be removed and the oil top-up will have the desired effect. When servicing, the jack should be placed in a plastic container or on a sheet to catch any fluid leakage.

Before adding oil, prepare appropriate personal protective equipment such as rubber gloves and face protection, read the technical data sheet of the oil used to be aware of the risks associated with contact with hydraulic oil. If you have any doubts and your competence goes beyond such work, make an appointment for a service inspection at an authorised workshop.

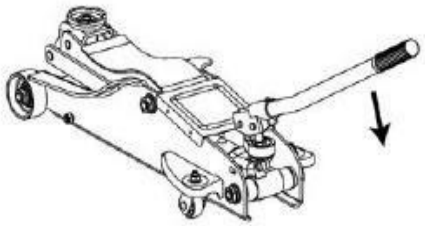
Replenishment of the hydraulic system

Hydraulic oil is an essential fluid to ensure the system is functional, low levels will result in limiting the operating range of the hoist and aerating it. If the jack is unable to

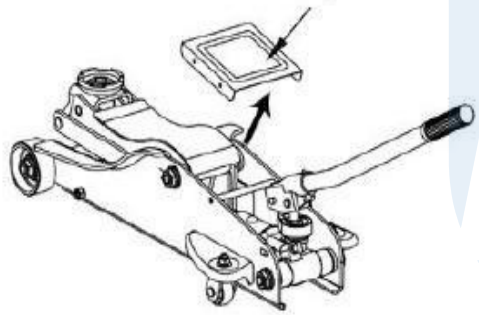
raise to the maximum height and the arm returns to its previous position after the last pump movement, then there is no oil in the tank. It needs to be topped up.



Release the pressure relief valve, the lifter arm must be in the lowest position, this will cause the oil from the piston to return to the reservoir. This will allow you to determine its current level. With the bleed valve released make a few strokes with the pump, this will cause air bubbles to be forced out of the pump. To remove the cover, leave the handle in the down position.

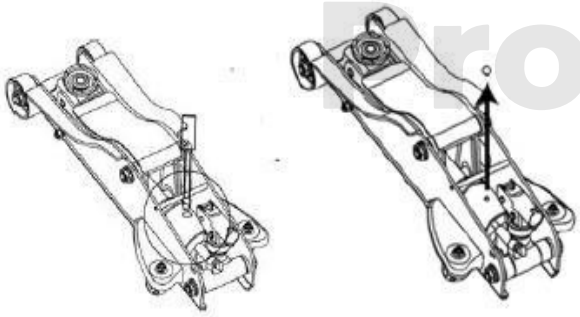


Unscrew the screws securing the top cover and then lift the cover to gain access to the plug for venting and refilling the oil. Clean the plug area so that no dirt enters the hydraulic system when the plug is removed.
For this purpose you can use a cloth soaked in soapy water

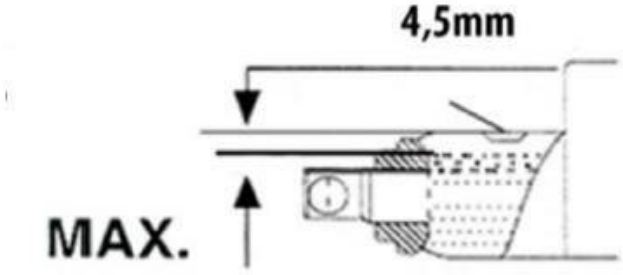


Using a blunt tool (nylon spatula), remove the rubber cap of the filling hole. Be careful not to tear or cut it.

TIP: A flat-head screwdriver is good for this task, but secure the tip with masking tape so the edge isn't sharp!

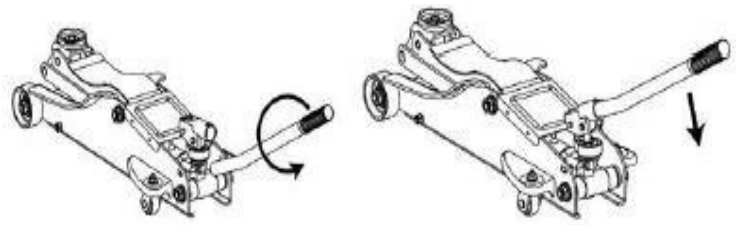


Add oil to within approximately 4.5 mm of the top of the reservoir. Then close the drain valve and start lifting to the maximum height. When reached, lower the jack and again check the oil level, top up if necessary, screw in the filler plug and fit the cover. The jack is ready for operation.

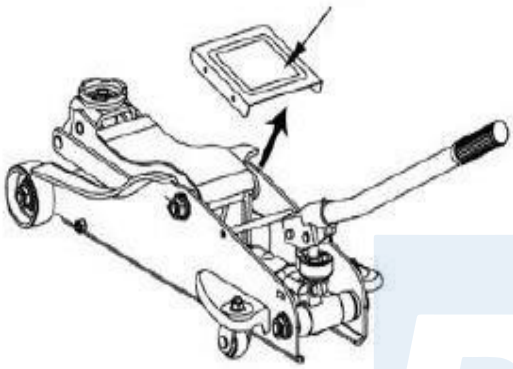


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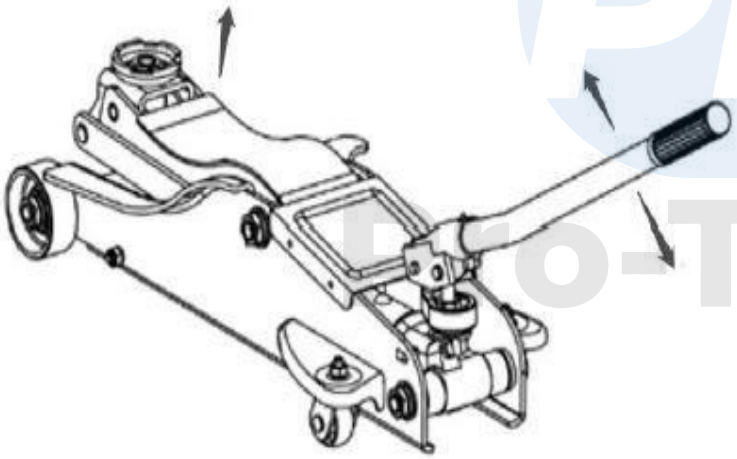
Venting the hydraulic system



Release the pressure relief valve, the lifter arm must be in the lowest , this will cause the oil from the piston to return to the reservoir. With the bleed valve released make a few strokes with the pump, this will cause air bubbles to be forced out of the pump.



Unscrew the screws securing the top cover and then lift the cover to gain access to the plug for venting and refilling the oil.
Clean the area around the plug so that dirt does not get into the plug when it is removed. hydraulic system. You can use a cloth soaked in soapy water for this purpose.

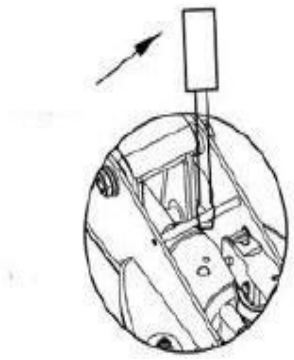


Close the drain valve and raise the jack to the maximum height. Lower the hoist to the minimum height. This will displace the air bubbles in the hopper. Then screw in the valve.

Using a blunt tool (nylon
spatula) remove the rubber cap of the filling hole. Be careful not to tear or cut it.

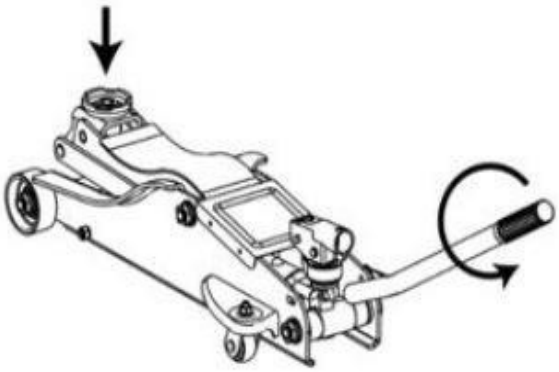
TIP: Flat is good for this task
screwdriver, but secure its tip with insulating tape so that the edge is not sharp!

Unscrewing the cap releases the air from the container.

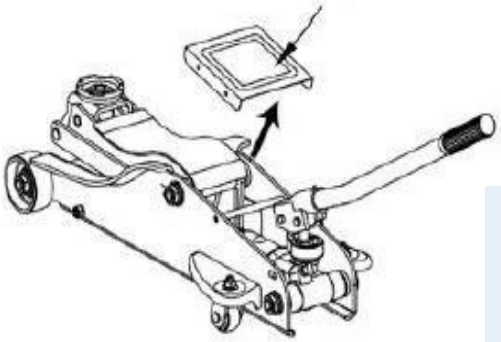


After bleeding the air, check the correct operation of the hoist, it may be necessary to repeat this operation several times to ensure that the
the system to remove any air bubbles. Replace the cover plate when the desired effect has been achieved. And thoroughly clean the jack of any remaining traces of oil.

Change the hydraulic oil



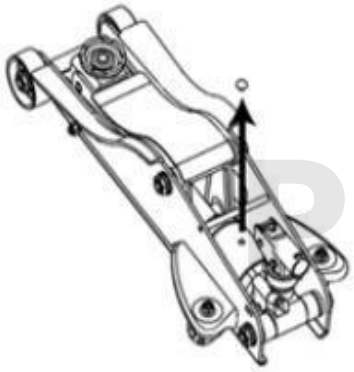
Release the drain valve and then lower the stroke to the minimum position. This will cause the oil to flow back into the tank.



Unscrew the screws securing the top cover and then lift the cover to gain access to the plug for venting and refilling the oil. Clean the plug area so that no dirt enters the hydraulic system when the plug is removed. A cloth soaked in soapy water can be used for this purpose.

Using a blunt tool (nylon spatula), remove the rubber cap of the filling hole. Be not to tear or cut it.

TIP: A flat-head screwdriver is good for this task, but secure the tip with masking tape so the edge isn't sharp!



Drain the old hydraulic oil from the cylinder by turning the jack upside down. Let all the oil drain out.



Hydraulic oil is hygroscopic, i.e. it absorbs water from the air and the environment. It can also be contaminated by dirt on the drive arm and pumps entering the system.
For this reason, it is recommended to change the hydraulic oil at when the performance of the hoist decreases or every 2 years.After draining the oil from the system, perform the actions described in
"Adding oil" and then bleed the system in accordance with the instructions contained in this manual.

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STORAGE

To store the jack, choose a location with the most stable temperature, free of moisture and inaccessible to foreigners.

- Perform maintenance, cleaning and lubrication before storage.

• Store the hoist in the fully lowered position, it will protect the drive piston from possible corrosion or damage.

• The drain valve should be loosened so that the seals are not compressed unnecessarily

• A hydraulic pump piston in the lower , as in the case of the cylinder piston, will protect it from danger.

• Store the jack in its original carton to protect it from dust and other harsh conditions.

PROBLEMS AND SOLUTIONS

The hoist cannot lift burden	The hoist can't carry the load	The hoist won't start	The jack does not go all the way up	The jack does not lift to the turning point	**CAUSES AND COUNCIL**
●	●		●		The safety valve is not fully closed
●					Overload
●			●		The system needs to be vented
●	●		●	●	Too low oil level
		●			Too high oil level
		●			Presence of an object blocking the hoist

Technical data:
Load capacity: 2.5 t
Max. Stroke height: 365 mm
Min. stroke height: 80 mm
Swivel head

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