



OWNER'S MANUAL



CDL'S MECHANICAL RELEASERS

Les Équipements d'Érablière CDL inc.

Thank you for choosing a CDL releaser. Our 40 years of experience working with sugarmakers ensures you that you acquired a performant and quality piece of equipment. Before using this product, make sure you understand all the following instructions. If there is any problem upon reception of this product, please immediately contact CDL or your local representative.

FINDING INFORMATION

Make a record for future use

Brand: _____

Purchased Date: _____

Model Number: _____

Serial Number: _____

Serial number location

The serial number is located on the main cannister



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SAFETY

A mechanical extractor is a relatively safe piece of equipment. Only make sure that it's installed on a flat, leveled and stable surface, to make sure it can't fall on something or someone.

DEFINITIONS

Sap: sugared water coming out of maple trees.

Dry line: plastic tubing installed in the woods that carries vacuum to the trees.

Wet line: plastic tubing that brings the maple sap from the woods to the pumping station.

Pumping station: room where the vacuum pump and the releaser are installed.



HOW A MECHANIC RELEASER WORKS

The goal of a releaser is to separate maple sap and the air that the vacuum pump pulls from the tubing system in the woods.

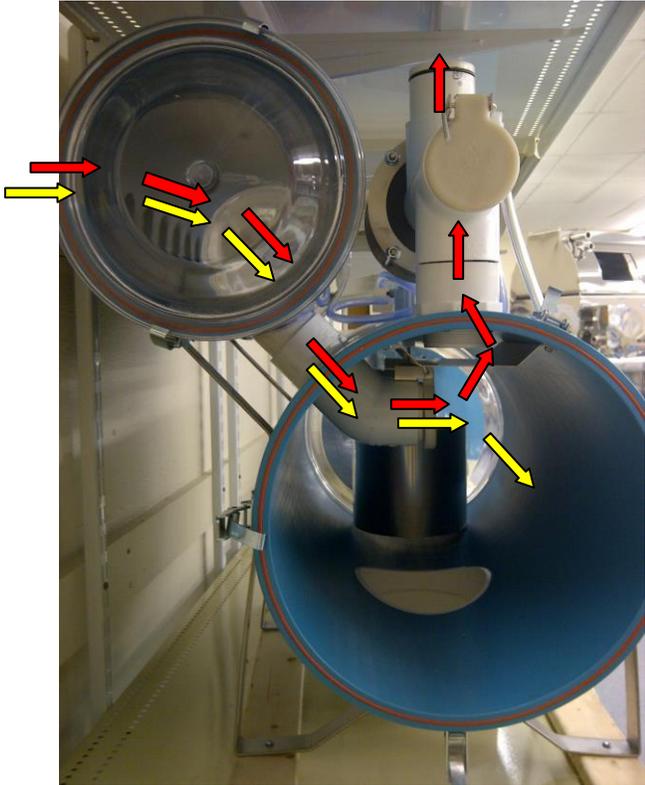


When the releaser is gathering sap, it looks like this:

The cylinder cap is shut by vacuum

The rocker arm is down

The bottom trap is shut by vacuum



→ : maple sap

→ : Vacuum

Sap comes in through the manifold and fills the bottom tank.

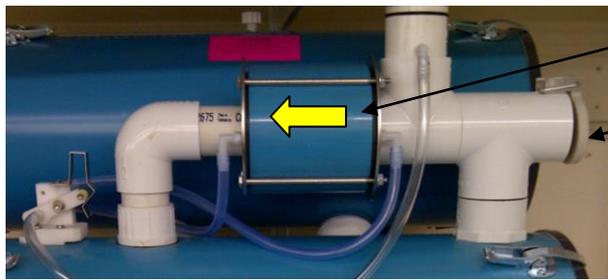


Until the bottom tank is full, the cylinder rod is pulled to the left



Vacuum goes through this tube

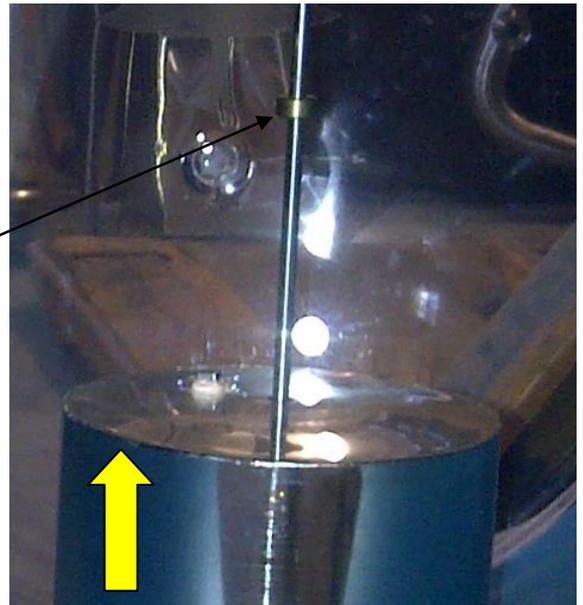
Vacuum is transferred through the white actuator to this tube that pulls the cylinder to the left, allowing vacuum to build in the releaser, by keeping shut the cylinder end cap.



The cylinder is pulled on the left

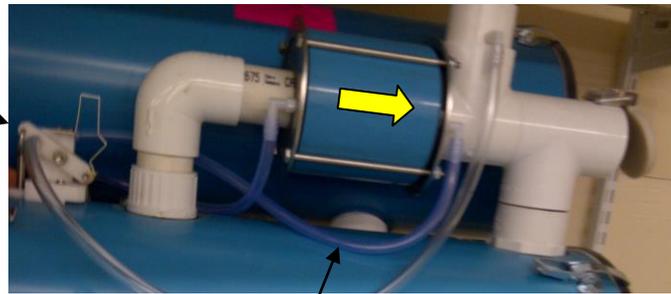
The cylinder end cap is shut

As the sap fills the releaser, the SS float will rise until it hits the top brass stopper.



As the sap level goes up, the float eventually pushes up this arm and activates the cylinder

When the releaser is full, the rocker arm is pushed up like this



When the rocker arm is up, the vacuum is shifted from the left side of the cylinder to the right, through this tube



When the cylinder rod shifts to the right, it opens the cylinder cap, releasing vacuum from the

When there is no more vacuum in the releaser, the weight of the sap opens the releaser door



When the releaser dumps, the vacuum left in the tubing system and the manifold shuts down the doors in the releaser. The sap will accumulate in the manifold until the floats goes back down and releases



As the sap level goes down, The float also goes down, the Spring keeps the rocker arm up and the vacuum on the right side of the cylinder

When the float gets to the bottom stopper, the weight of the float releases the rocker arm that goes down, shifts the cylinder to the left. This action allows vacuum to build again in the releaser, closing the bottom door, the cylinder cap and releasing the inside door



Note: a vertical electric releaser works exactly the same way as a horizontal releaser.



INSTALLATION



The wet and dry lines will come in the back of the manifold in the pre-drilled holes

The following pictures shows a typical installation, on top of a tank.



Vacuum
Check valve
Vacuum line going to the moisture trap and the
Moisture
Vacuum gauge
Mechanical

Vacuum pump hooked to

Wet and dry lines coming



Tank



Dry lines: comes in the back of the releaser manifold. Always install a valve right after the manifold on each dry line.

Wet lines: leaves from the back of the releaser manifold to the woods. Always install a valve right after the manifold on each wet line.

Electric extractor: equipment that separates maple sap and air.

Ligne de balancement: connected to the evacuation pump to keep it primed.

Evacuation pump: pump that empties the extractor and brings maple sap to the main sap tank.

Moisture trap: Equipment that is used to protect the vacuum pump in case the releaser malfunctions. If the releaser doesn't dump normally, the sap level will keep rising until it gets to the vacuum line. Then sap will get sucked directly to the vacuum pump, which can damage it. If a moisture trap is there, a ball inside the trap is there to stop the flow of sap before it gets to the pump. Another type of moisture trap has a level sensor that will detect the presence of liquid and will shut off the vacuum pump before it gets flooded.

Vacuum regulator: Part that limits the vacuum level in the system by introducing air in it. If there is not enough air coming in, the pump will cavitate. Cavitation will greatly reduce the life of a vacuum pump. A pump is cavitation if you hear crackling noises. Ideally, the vacuum regulator is located between the vacuum pump and the moisture trap.

Vacuum gauge: Optional, can be installed on the extractor manifold to monitor vacuum level.

A mechanical releaser can be installed outside. However, it must always be protected from rain and snow. Snow and ice can prevent the releaser from working properly.



MAINTENANCE

Two things are required in order to keep the releaser in good working condition. First, always keep it clean. To have access to the inside, release all the clip to remove the 4 covers located on each side.



Also, during the season, spray some food grade lubricant on the stainless steel rod where it goes through the main cylinder. It will make it easier for the rod to go up and down.



Spray this rod

Also spray the inside of the cylinder



TROUBLESHOOTING GUIDE

Sap level rises but the pump won't start

The top float stopper needs adjustment. Lower the stopper and tighten it well.

Vacuum is too low to move the cylinder. Releaser too big for the pump.

Cylinder is stuck, open it, clean it and lubricate it.

The float rod get stuck in the plastic bushing. Lubricate the arm, change the arm if it's crooked or replace the bushing.

The extractor never empties itself completely

The spring of the float switch needs adjustment, the spring lets go before the float gets to the bottom stopper. Replace the spring or try to bend it more to give more resistance. Don't bend too much, it must release the rod when the float reaches the bottom stopper.

The extractor dumps before it's full.

The top stopper is too low. Raise the stopper and tighten.

The float get stuck and pushes up too early. Lubricate the float rod or replace it if it's crooked.

Air leak from one of the covers or the bottom door

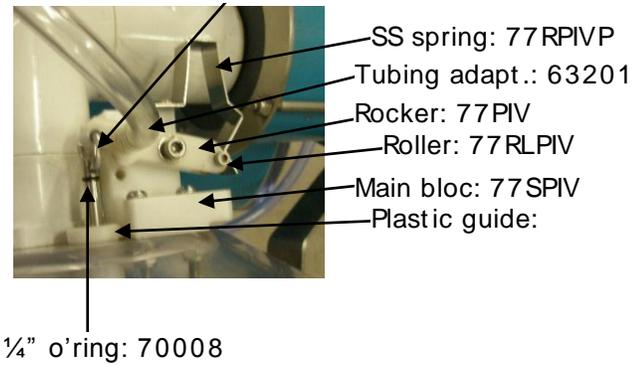
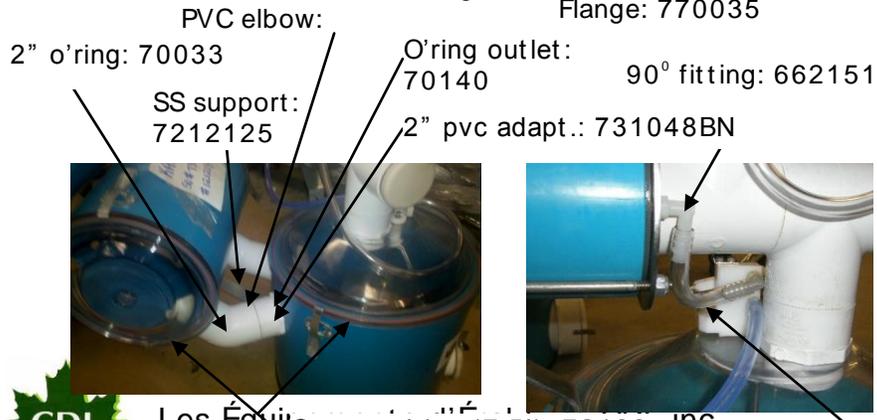
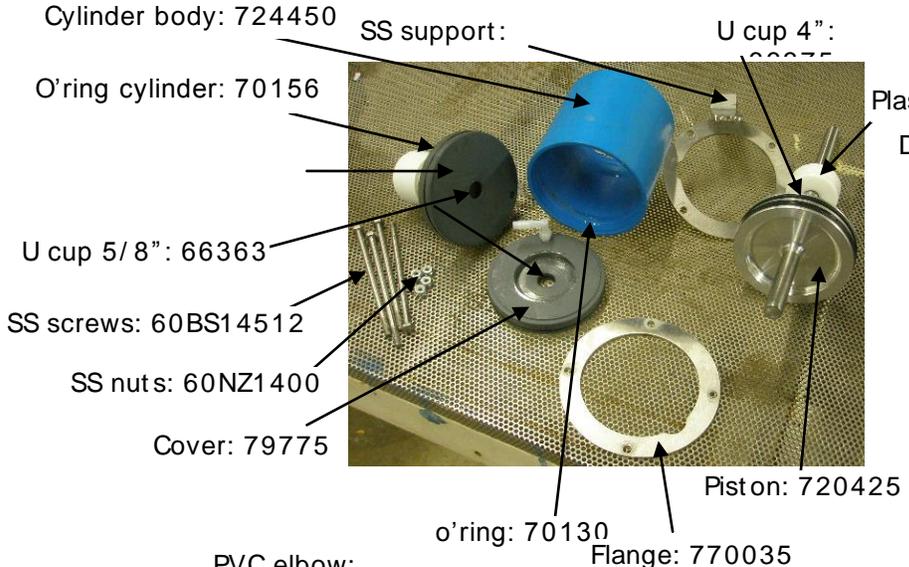
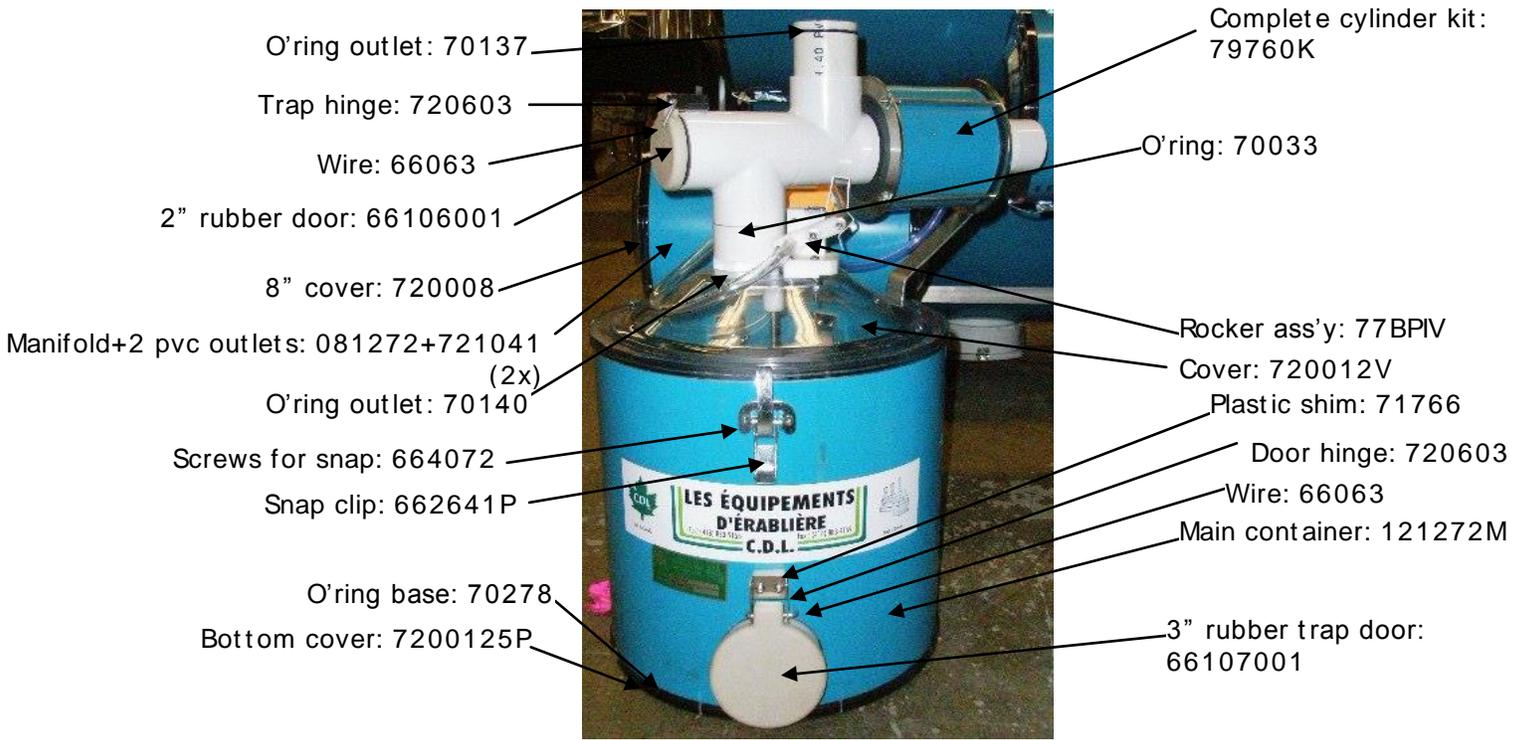
One of the orange o-rings is damaged or badly installed. Replace or reinstall the o-ring. Be very carefull when you install this o-ring. This operation is very tricky. Any bump on the surface will cause a vacuum leak. The o-ring has to be perfectly flat and it cannot be stretched. Again, any inconsistency in the o-ring will create a leak. The ends of the o-ring don't have to be welded. Just have them touch without any gap between them.

Air leak at the white actuator

One of the o-rings (u cup) inside the cylinder is worn or broken. Replace o-ring.

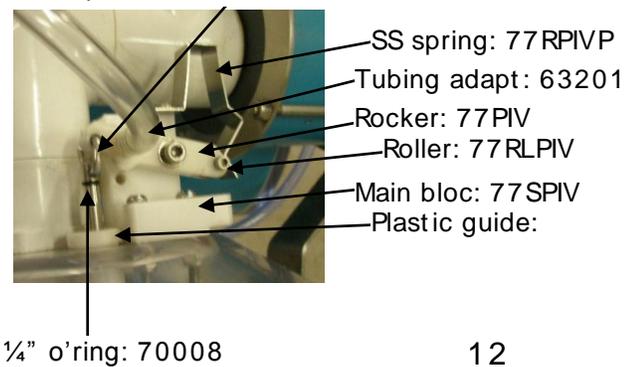
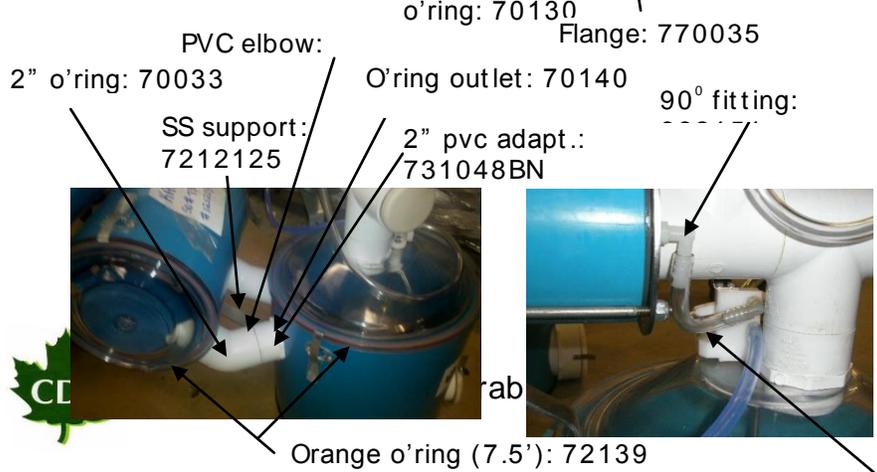
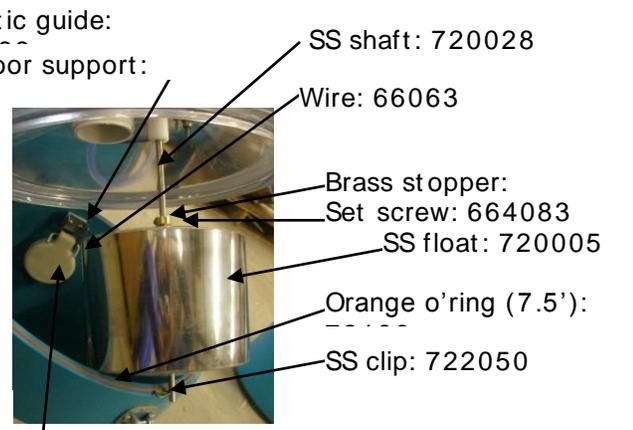
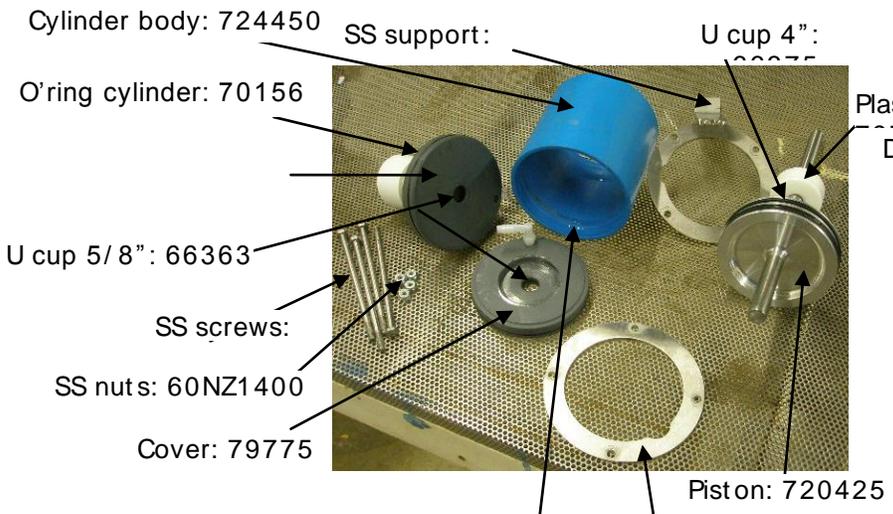
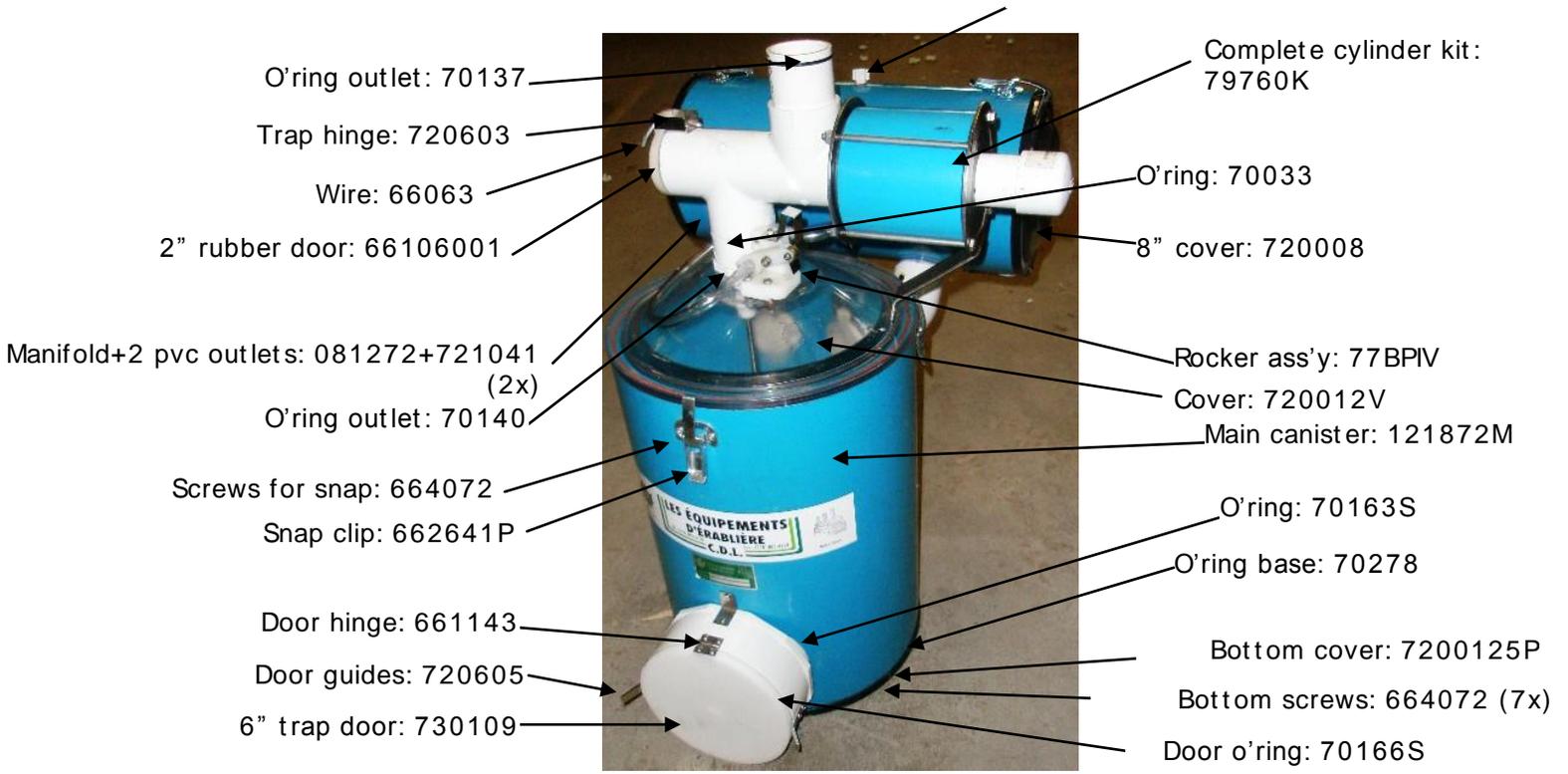


Part # 121208: 750 tap vertical releaser

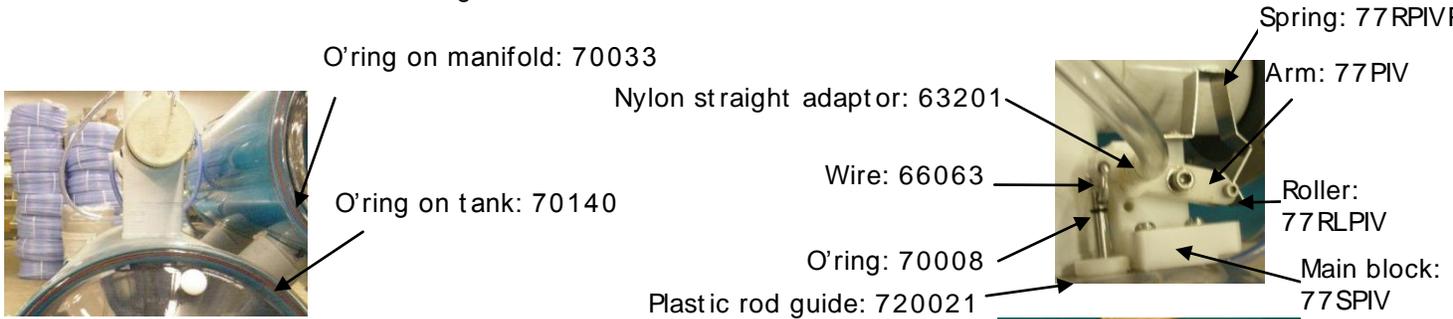
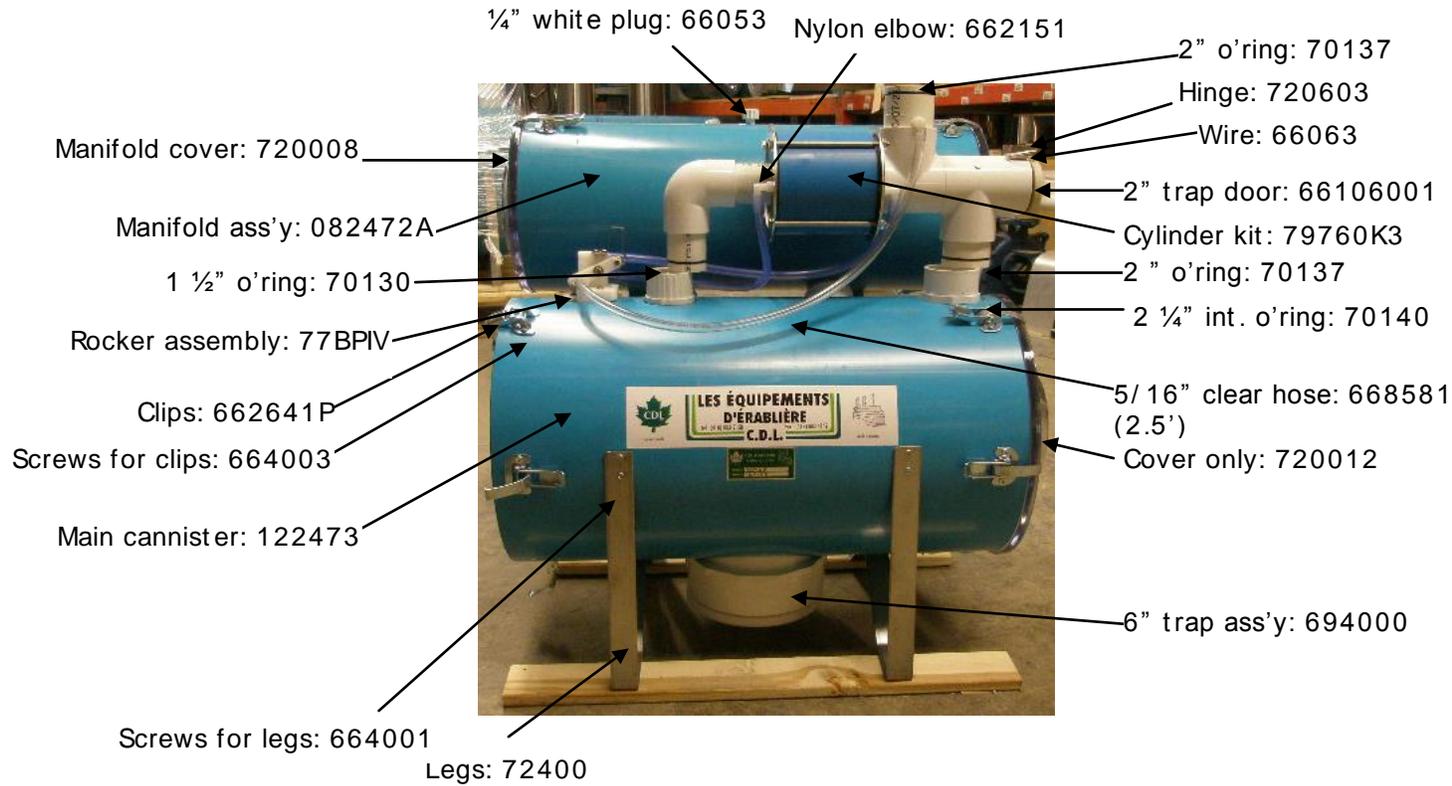


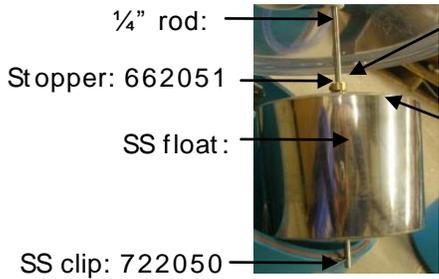
Part # 121808: 3000 tap vertical releaser

1/4" white plug: 66053



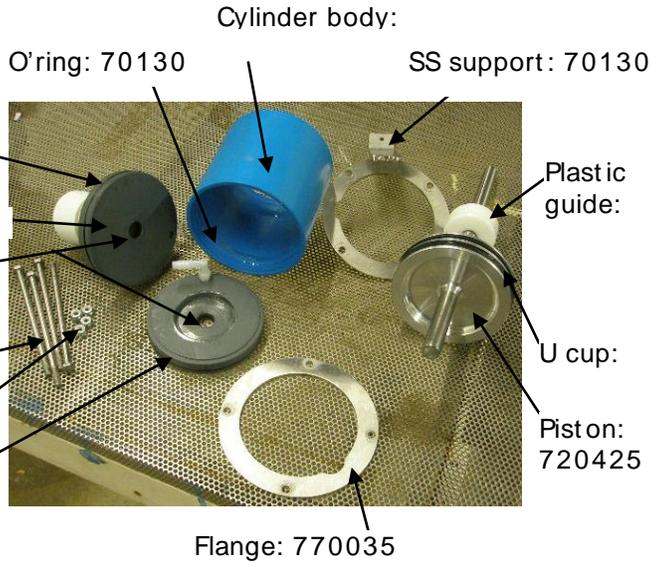
PART # 122408: 4000 TAP HORIZONTAL MECHANICAL RELEASER





1/4" rod:
 Stopper: 662051
 SS float:
 SS clip: 722050

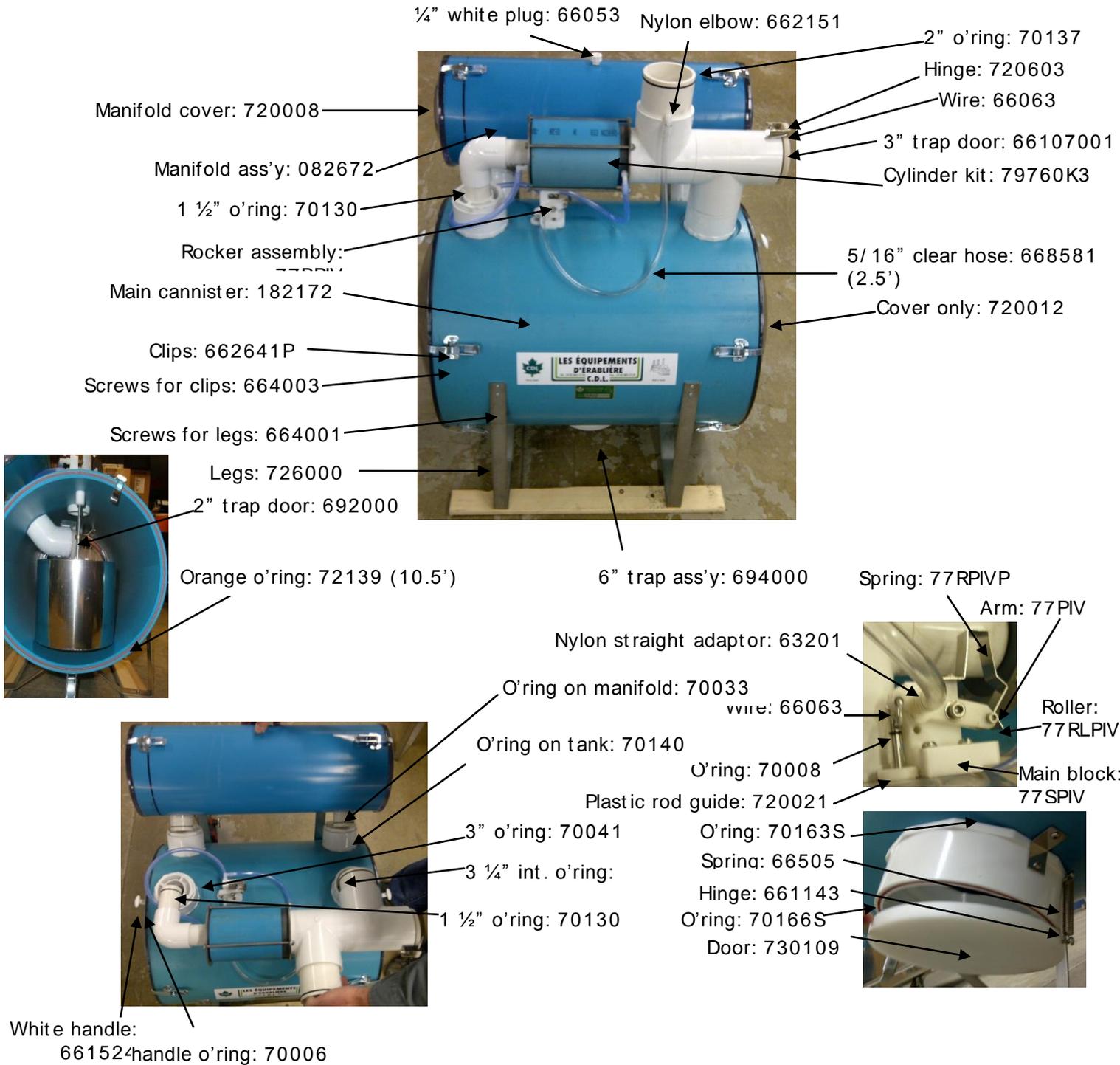
Set screw:
 5/8" U cup: 66363
 1/4" SS plug:
 SS screws: 60BS14512
 SS nuts: 60NZ1400
 Cover: 79775

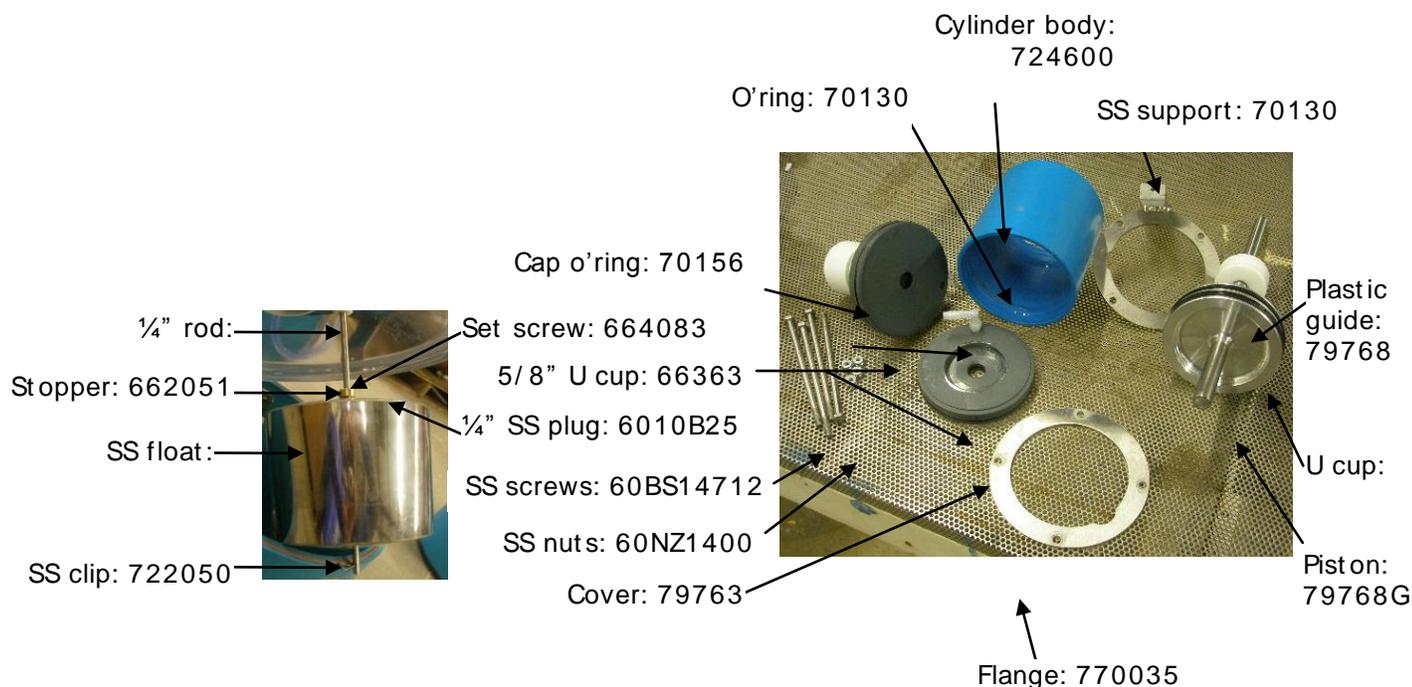


O'ring: 70130
 Cylinder body:
 SS support: 70130
 Cap o'ring: 70156
 Plastic guide:
 U cup:
 Piston: 720425
 Flange: 770035



PART # 202608: 6000 TAP HORIZONTAL MECHANICAL RELEASER





WARRANTY

Your new CDL releaser is covered by limited 2 year warranty against manufacturing defects. For two years from your original date of purchase, Les Équipements d'Érablière CDL (CDL), will replace or replace any parts of this press that prove to be defective in materials or workmanship when such evaporator is installed, used and maintained in accordance with the provided instructions.

Exclusions

This warranty does not cover the following:

1. Product that has been transferred from its original owner to another party or removed outside the USA or Canada.
2. If anything else than maple sap is processed in the machine.
3. If normal maintenance is not performed as specified in the CDL owner's manual.
4. Production loss due to any kind of failure of the releaser.
5. Damage cause by snow or ice if the releaser is not protected from weather conditions.
6. Revenu losses due to sap or syrup quality.
7. Service calls which do not involve malfunction or defect in materials or workmanship, or used other than in accordance with the provided instructions.
8. Service calls to correct the installation of your releaser or to instruct you how to use it.
9. Any service beyond the first two years.
10. Damages caused by: services performed by unauthorized service companies; use of parts other than genuine CDL parts or parts



obtained from persons other than authorized service companies; or external causes such as abuse, misuse, inadequate power supply, accidents, fires, or acts of God.

11. It doesn't cover the consumable products or accessories.
12. If the product was damaged by abusive use, negligence, accident caused by the customer, modification made by the customer, variation in the electric power.
13. Damage cause by the use of products that are not meant for use with our equipment or a bad use of cleaning products.

Disclaimer of implied warranties; limitation of remedies

Customer's sole and exclusive remedy under this limited warranty shall be repair or replacement as provided herein. Claims based on implied warranties, including warranties of merchantability or fitness for a particular purpose, are limited to two years or the shortest period allowed by law, but not less than two years. CDL shall not be liable for consequential or incidental damages such as property damages and incidental expenses or loss or revenues caused by any event covered by this warranty. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, or limitations on the duration of implied warranties, so these limitations or exclusions may not apply to you. This written warranty gives you specific legal rights. You may also have other rights that vary from states to states.

If you need service

Keep your receipt, delivery slip or some other appropriate payment record to establish the warranty period should service be required. If service is performed, it is in your best interest to obtain and keep all receipts. Service under this warranty must be obtained by contacting CDL at the addresses or phone numbers below. Obligations for service and parts under this warranty will be performed by CDL in Canada. Products features or specifications as described or illustrated are subject to change without notice.

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