PRO 600 & 1600 PORTABLE EXTRACTOR
USER MANUAL

USER GUIDE

1. Pre vacuum carpet and inspect for stains and marks. (Do not use portable to vacuum carpets – it is not a vacuum cleaner)
2. Plug power lead ❶ into your machine and into a wall power point.
3. Fill solution tank ❷ with warm water and turn on heater ❸ in order to get your water solution to a good operating temperature.
4. Pre spray the carpet with chemical by using a pre spray gun or pump sprayer.
5. Attach vacuum hose to PVC pipe on portable dome and the other end to your wand shaft ❹**.**
6. Attach Female quick-connect fitting on Solution hose to Male fitting on wand trigger ❺.
7. Attach Male quick-connect fitting on Solution hose to Female quick-connect on the front of the machine ❻
8. Attach automatic waste ❼A and automatic fill ❼B hoses (automatic portables only)**.**
9. Turn off the heater switch ❸ and then turn on both vacuum switches ❽ as well as the pump switch ❾ (for safety purposes, the machine will not work if heater is on except on twin-power-lead models)
10. Proceed and complete cleaning.
11. Turn off all switches on machine & wall power point and disconnect power chord from unit.
12. Once the machine is completely off, depress wand trigger once to release any water pressure remaining in the solution line. Failure to do so may result in a pressure lock and could result in injury.
13. Remove all remaining hoses from portable.
14. Wheel machine outside and dispose of any remaining waste water by lifting the dump valve.
15. Clean any lint or dirt from your filter basket and hose out waste tank.

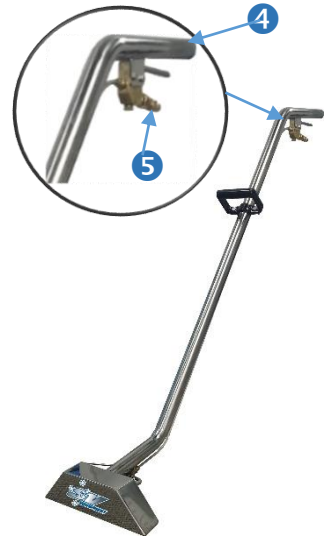
RECOMMENDED OPERATING PRESSURE

- For upholstery cleaning - Maximum 300 PSI
- For carpet cleaning - Maximum 500 PSI
- For grout cleaning - Maximum 1200 PSI


6
5


4


2
4
PRO 600
7A
6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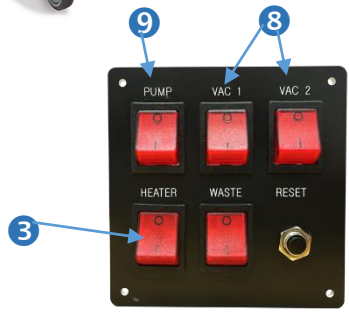

9
8
PUMP
VAC 1
VAC 2
HEATER
WASTE
RESET
3


7B


Acrylic Dome
PRO 600
Dump
Valve
Vac
Exhaust
Solution
Pressure
Regulator
Pressure
Gauge


Acrylic Dome
PRO 1600
Dump
Valve
Vac
Exhaust
Solution
Pressure
Regulator
Pressure
Gauge

KNOWING YOUR MACHINE

HOUR METER

An hour meter is fitted to your portable, in order to keep track on the operating hours of the vacuum motors and the pump/motor assembly.

SWITCHES

Illuminated, heavy duty rocker switches are placed at the side of the machine away from any possible water contact. If the heater switch is activated (where fitted) all other switches (pump, vacuum and waste) will not operate. To operate in normal running mode, the heater switch must be in the off position. The portable is fitted with a heater switch, a pump switch, two vac motor switches and a reset button. Automatic machines may be fitted with a waste pump and therefore have a waste switch as well.

PRESSURE GAUGE

The portable is fitted with a heavy duty glycerine-filled pressure gauge which is dampened to prevent vibration. It is fitted inline to the pump assembly and registers the amount of pressure in the line.

PRESSURE REGULATOR (UNLOADER VALVE)

The pressure regulator is situated at the front of the machine and enables easy adjustment of the working pressure (PSI) of the pump. This makes it very easy to back-off pressure for tasks such as upholstery cleaning.

DUMP VALVE (WASTE RELEASE)

The portable is fitted with a dump valve, used to empty waste from the dirty water tank. Make sure that the valve is closed before you operate the machine as you will have no vacuum pressure while it is open.

1 - LOW WATER SHUT OFF FOR PUMP
The portable is fitted with a float switch which senses when the water level in the solution tank is low and cuts power off to the pump motor so that the pump will not run dry.
2 - HEATER (5 AMP)
Portable models with a solution tank heater, are fitted with a 5 amp heater to sustain water temperature while the machine is idle.

BOOSTER PORT
The booster port (where fitted) enables the use of a "Turbo Booster". The Turbo Booster is fitted with 2 x two-stage vacuum motors, doubling the suction power of your portable machine. For more information on the Turbo Booster see the Accessories section.

AUTO-FILL (AUTOMATIC ONLY)
Automatic portables are fitted with an auto-fill feature. This means that the portable can be connected to a water source in order to automatically fill the solution tank while the machine is operating, to maintain water level in the solution tank. No more wasting time, having to stop and fill the tank each time it empties!

WASTE PUMP VALVE (AUTOMATIC ONLY)
Automatic portables are fitted with a waste pump. To activate the pump, turn the waste switch to the on position and open the ball valve at the front of the machine (ensure a waste hose is attached onto the valve first). When the waste reaches a set level, the waste pump will automatically switch on and start pumping the waste away.

CLEANING FILTERS

FILTER BAG (WASTE TANK)
A lint bag is fitted in order to filter larger pieces of debris that are vacuumed into the waste tank. This avoids the need to manually filter waste water when dumping. In order to maintain the lint bag in optimal condition, empty the lint bag and rinse it out after each day's operation. You may also bleach the lint bag If you want to keep it looking whiter and minimise bad odour.

RECOVERY FILTER
A recovery filter fitted in the waste tank, is designed to shut off the vacuum motors when the waste water gets too high in the tank. This filter must be cleaned on a regular basis in order to avoid dirt build-up, which could prevent the shut-off mechanism from engaging and result in water entering the vacuum motors.

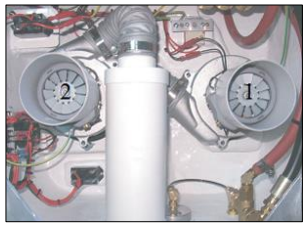
PUMP FILTER
A small 'button' filter is fitted to the water inlet in the clean water or solution tank. It filters small particles from being drawn into the pump and damaging it. This filter should be unscrewed and rinsed on a regular basis to avoid build-up of dirt, maintain water flow rate and maximise the life of the pump.

WASTE PUMP (AUTOMATIC ONLY)
If you have a fully automatic machine with a waste pump, clean the pump on a regular base to minimise dirt build-up around the part of the pump that draws water. Remove the pump by unhooking it from the base plate (held in with a large rubber ring). The pump is fitted to the machine with an extra-long power cord, such that it can be completely removed from the waste tank for ease of access. Clean by washing thoroughly, and replace.

REPLACING VACUUM MOTORS

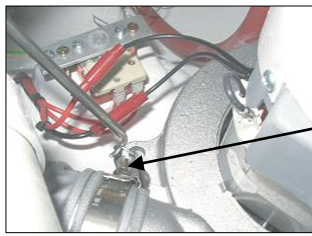
Your portable is fitted with two 1100-watt, two-stage vacuum motors. With due care, you should get at least 600 hours of operation out of a motor, however there have been cases where a motor has lasted up to 1000 hours.

BEFORE SERVICING ENSURE THAT THE MACHINE IS NOT PLUGGED INTO POWER!



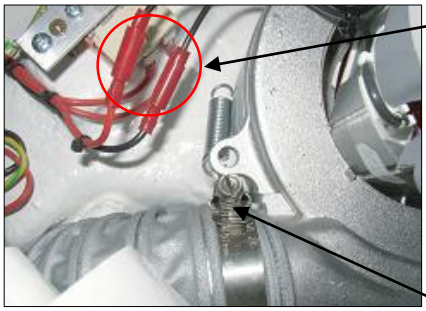
The vacuum motors are wired to two separate switches. Number one (1) is wired to a loom and number two (2) is wired directly to the number two switch. Below are four steps for easy vacuum motor replacement.

If you wish to replace a vacuum motor, make sure to remember to put back the piece of PVC around the motor's head. This is very important because it protects the wiring should any water ever passes through a vac motor.



STEP 1

Remove the three springs holding the vacuum motor to the manifold. To do this use a hook or a screwdriver and simply lever the spring out of the catch or hole on the motor frame.



STEP 2

Once you have taken all 3 springs off, you can then disconnect the wiring. If removing vac 1, it will be wired by these bullet joiners. If removing vac 2, it will be wired to the switch itself.

STEP 3

Remove the exhaust hose from the motor, by simply unscrewing the hose clamp to release.

STEP 4

Now disconnect the earth lug from the vac motor.

To refit a new vacuum motor, simply reverse the four steps above. When replacing a vacuum motor, make sure you reposition it evenly on the black foam pad so as to ensure optimal suction from the unit. Inspect the condition of the foam pad and if damaged, replace it as well.

PUMP MAINTENANCE

MAINTENANCE SCHEDULE

OPERATION	Every 8 hours	Every 50 hours	Every 500 hours
Check oil level	X		
Check tubes-fittings		X	
Check & clean inlet filter		X	
Control pump connection to the engine		X	
Change oil		X -FIRST CHANGE	X
Check suction/delivery valves			X
Check pump bolt and nut setting			X
Check regulation valve			X

PLEASE NOTE:
The process of pump repair can be complex and is typically performed by a trained technician. Do not attempt to perform your own repair unless you are qualified to do so or understand that this may void your warranty.


Fig. A


Fig. B

A. Valve Maintenance

1. Using a 22mm wrench or socket, remove the six valve caps on the manifold of pump. **(Fig. A)**
2. Examine the valve cap O'ring for cuts or distortions and replace if worn.
3. Using needle nose pliers, remove the suction and delivery check valve. The valve assembly usually stays together when removing. If the valve comes apart, use needle nose pliers or reverse pliers to remove the remaining parts. **(Fig. B)**


Fig. C

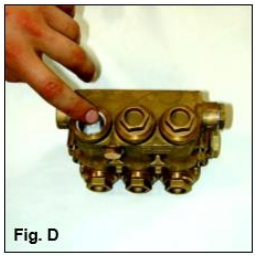


Fig. D

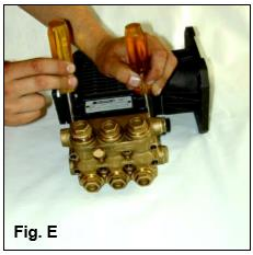


Fig. E


Fig. F

4. Inspect the suction and delivery check valve assembly for general wear and replace if necessary. The valve assembly consists of the plastic cage, spring, valve seat, poppet and O'ring. **(Fig. C)** One comet valve kit is needed for complete valve change of one pump.
5. Replace old valve with new valves by placing assembly in the valve chamber. Press down firmly on the top of the valve assembly. **(Fig. D)**
6. Replace valve caps by applying LOCTITE 243 to valve cap and torque to 33 ft. lbs.

B. Removing & Replacing Pump Manifold

1. Remove the manifold of the pump by taking a 5mm Hex or Allen key and removing the head bolts.
2. With the pump firmly secured take a medium sized flat head screwdriver and apply pressure to the manifold by prying between the crankcase and manifold. Work around from all sides of the manifold evenly until it comes away from the pistons. Keep manifold properly aligned with the pistons to prevent damage to the seals and pistons. **(Fig. E)**
3. When replacing the manifold, turn crankshaft of pump until the top of pistons are closely aligned. Lubricate the pistons and cylinders with grease and evenly press the manifold toward crankcase until flush. **(Fig. F)**

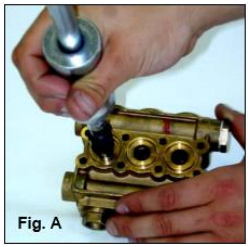


Fig. A

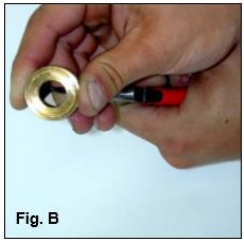


Fig. B

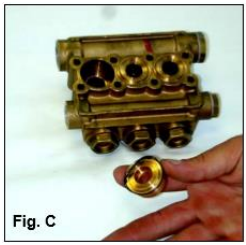


Fig. C

C. Seals and V-Packing Maintenance

1. Remove the manifold as described. It is possible that the seal and brass retainer ring assembly stays on the piston or remains in the manifold when removing.
2. Using the packing extraction tool, remove the brass retainer ring/seal stack. **(Fig. A)** Remove the low pressure seal using a needle nose pliers. **(Fig. B)** Once this seal is removed, replace the new seal.
3. Remove the outer O'ring by taking a small flat head screwdriver and working it under the O'ring. Simply roll of the O'ring. **(Fig. C)**
4. The V-packing stack can be taken apart by hand.

D. Seals and V-Packing Reassembly

1. Generously lubricate parts with grease when reassembling. Examine brass components for any damage or water residue build-up.
2. Insert low-pressure sealing working it in by hand.
3. Replace the outer O'ring by simply starting on one side and working it into the groove. **(Fig. C)**


Fig. D

4. Stack the V-packing in the correct order and firmly press the assembly into the manifold. **(Fig. D)**
5. Install a new oil seal by laying the seal into the opening and evenly pressing it into place. **(Fig. E)**
6. Reinstall the manifold onto the pump as described.


Fig. E

E. Plunger Maintenance

1. Remove the manifold as described. Remove the packing retainers if they remain on the pistons after removing the manifold.
2. Remove the nut and washer on the end of the piston using a 13mm wrench or socket.
3. Slide the ceramic plunger and the remaining washer from the piston guide. Inspect ceramic piston, O'ring and washers for wear. Replace if necessary. **(Fig. F)**


Fig. F


Fig. A

F. Plunger Reassembly

1. Generously grease the piston guide. Replace the O'ring making sure it does not twist or roll.
2. Slide the lower washer and ceramic bushing onto the piston guide. **(Fig. A)** Place a small amount of LOCTITE 243 on the piston guide threads. Replace the outer washer and thread nut onto the piston guide. Torque to 4.5 ft. lbs

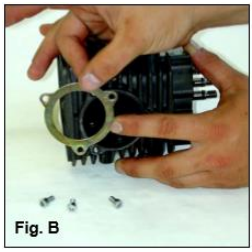


Fig. B

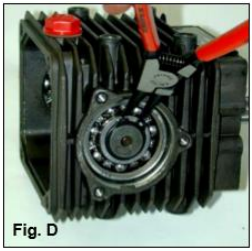


Fig. D


Fig. E


Fig. F

G. Crankcase Maintenance

1. Remove manifold & pistons as described.
2. Remove the plastic bearing cover ring using 4mm Hex or Allen key to unscrew the three bolts. **(Fig. B)**
3. Remove plastic spacer and O'ring by hand.
4. Remove the snap ring from end of crankshaft allowing the shaft to slide out of the bearing. **(Fig. D)**
5. On the flange side of the pump, remove the oil seal by piercing a hole in the surface of oil seal with a flat head screwdriver. Pry it out of the crankcase and over the shaft. (**Fig. E)**
6. Remove the large snap ring securing the flange side bearing into the crankcase.
7. Remove the small snap ring securing the shaft to the bearing.
8. Using an industrial press, or something equivalent, press out the shaft from the side where plastic cover was removed. Secure the smaller bearing to the crankcase using vice grips, or something equivalent, to make sure the smaller bearing does not get pushed into the crankcase with the shaft. **(Fig. F)** The larger bearing on the flange side of the pump will likely come out with the shaft.
9. Work the shaft out of connecting rods as needed.
10. Remove the piston guides by pulling out by hand.
11. Press the small bearing out of the crankcase going through the larger bearing opening and pressing out.

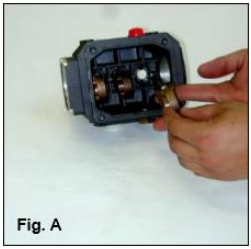


Fig. A

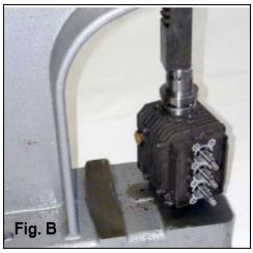


Fig. B

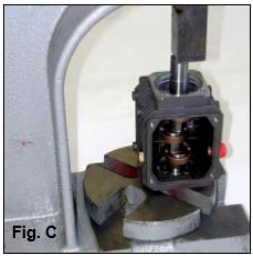


Fig. C


Fig. D

H. Crankcase Reassembly

1. Insert the piston guides by sliding them into the crankcase by hand. **(Fig. A)**
2. Press the small bearing into the crankcase. **(Fig. B**)
3. Insert the crankshaft through the large bearing opening, eyeing it through the connecting rod openings. Press the end of the shaft down into small bearing. **(Fig. C)**
4. Secure the snap ring around the shaft outside of the small bearing. **(Fig. D)**
5. Slide the large bearing over the crankshaft and press it into the crankcase.
6. Secure the snap rings into place by securing the bearing into the crankcase, and the shaft into the bearing.

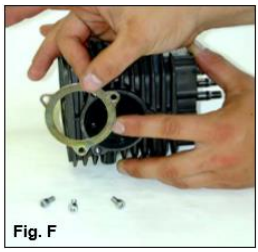


Fig. F

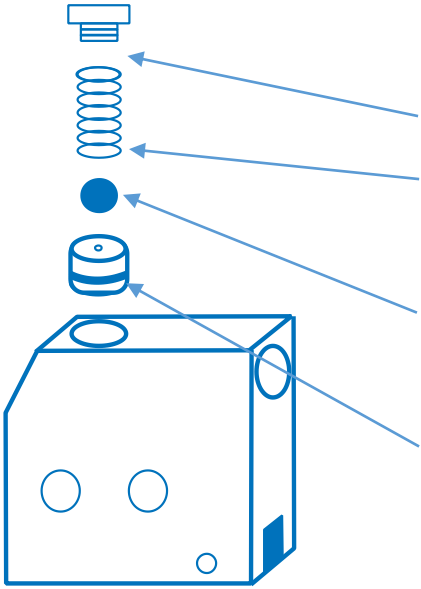
7. Install the large oil seal on the flange side of the crankcase to cover the larger bearing. **(Fig. E)**
8. Install the plastic spacer, O'ring and metal cover. Secure the three bolts with a 4mm Hex or Allen key. Torque to 3ft. lbs. **(Fig F.)**
9. Install the large crankcase back cover by placing the O'ring outside of the inner lip. Secure with the four 5mm bolts and torque to 7ft. lbs.

DUMP VALVE MAINTENANCE

In order to ensure a complete seal, the dump valve will require regular cleaning. Seal failure or dirt in the valve will cause loss of suction.

1. Undo the four nuts and bolts.
2. Pull front section away from body.
3. Pull body away from back section.
4. Two valve seals will be found in these sections. Take these off and rinse clean, looking for damage to seals.
5. Pull handle up on middle section. Sand and grit may be found in the groove stopping the gate from closing fully, so rinse thoroughly
6. If the seals are damaged, a replacement seal kit is available from your supplier.

REPLACING A SUREVAC WAND TRIGGER SEAL KIT

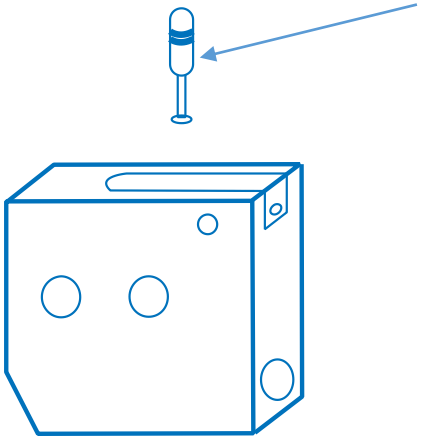


Remove trigger handle from trigger body.

Put the spring inside the brass cap, then put the cap in the hole using Loctite sealant or Teflon tape. The spring will then apply tension on the ball.

Seat the ball bearing on the Teflon after you put it in and tap the ball once just to bed it in.

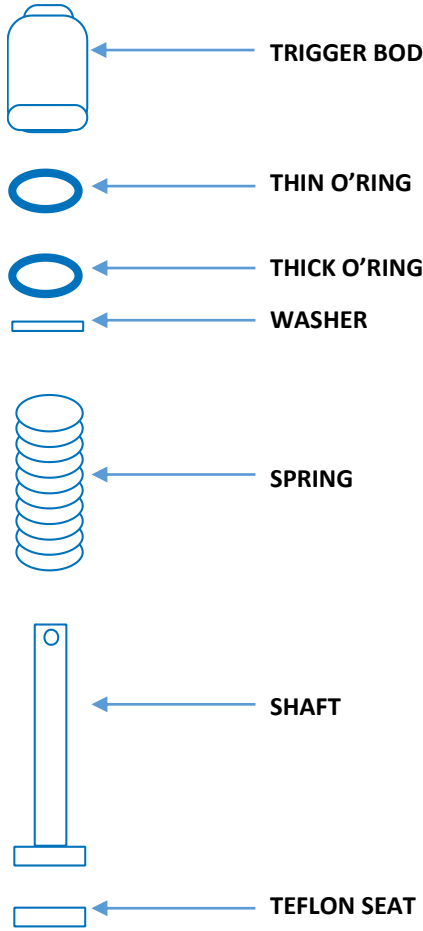
Apply a small amount of Vaseline on the Teflon seat and tap it down the hole with the seal on the bottom end. Tap down until you feel it click in.



Cover the shaft with Vaseline. Push shaft into hole with the skinny end first and the seal facing up. Using long nose plyers, slowly twist and work the shaft down until you feel and see both seals go inside the trigger body.

Place the small spring in the little hole here and then attach your trigger handle to the trigger body.

REPLACING A VAPOURTECH SEAL KIT



THIS END INTO TRIGGER BODY

Push Teflon seat into the trigger body using the shaft and a light tap with a hammer to lock Teflon into place. You should feel it click in.
IF YOU HAVE ANY DIFFICULTIES INSTALLING THIS SEAL KIT, PLEASE FEEL FREE TO CONTACT YOUR LOCAL SERVICE CENTRE.