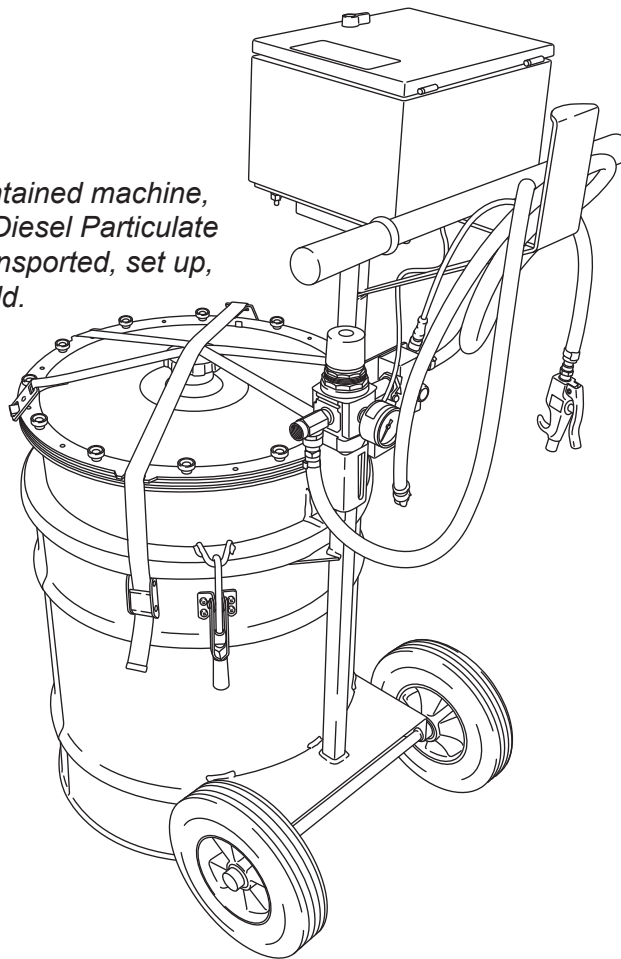


Portable Diesel Particulate Filter (DPF) Cleaner

Description: A self-contained machine, designed for cleaning Diesel Particulate Filters, that may be transported, set up, and operated in the field.



This user manual provides cleaning instructions for after-treatment diesel particulate filters (DPFs).

- The after-treatment diesel oxidation catalyst and the after-treatment diesel particulate filter housing must be free of dents.
- Mounting flanges must be free of dents, cracks, or gouges in order to seal correctly.
- After-treatment diesel particulate filters should be inspected prior to cleaning using appropriate OE technical procedures.
- DPF cleaning machines are not designed to clean DPF filters that are plugged as a result of excessive fluids in the exhaust system, such as coolant, fuel, or oil.
- SPX is not liable for a pre-existing condition in the DPF that would render the filter unstable, if using the cleaning machine identifies such a condition exists.

**Particulate filters that do not pass these criteria
should be replaced and not cleaned.**

PRODUCT INFORMATION

Record the serial number and year of manufacture of this unit for future reference. Refer to the product identification label on the unit for information.

5286

Serial Number: _____ Year of Manufacture: _____

DISCLAIMER: Information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without obligation to notify any person or organization of such revisions or changes. Further, SPX shall not be liable for errors contained herein or for incidental or consequential damages (including lost profits) in connection with the furnishing, performance, or use of this material. If necessary, obtain additional health and safety information from the appropriate government agencies, and the vehicle and lubricant manufacturers.

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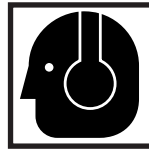
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Safety Precautions



WARNING

Ash produced by diesel particulate filters has been declared a hazardous waste in some areas of the United States. Follow federal, state, and local procedures for the handling and disposal of ash.



To prevent personal injury when using the Diesel Particulate Filter Cleaner :

- Study, understand, and follow all instructions before operating this device. If the operator cannot read these instructions, operating instructions and safety precautions must be read and discussed in the operator's native language.
- Wear eye protection that meets OSHA standards. If there is eye contact with the ash, flush eyes with cold water for 30 minutes.
- Set up the DPF Cleaner in an area where there is adequate ventilation. Wear a dust mask (rated N95) to avoid breathing the ash.
- Wear nitrile gloves that meet OSHA standards. If there is skin contact with the ash, thoroughly wash the skin with soap and water.
- Wear ear protection that meets OSHA standards. The noise made during the cleaning cycle is within the acceptable decibel rating for unprotected ears; however, ear protection is recommended.
- Never attempt to clean a DPF that is too hot to touch.
- A DPF must be securely strapped in place before a cleaning cycle is initiated.
- Observe the cleaning process during the first minute of operation. If ash appears to be blowing out the top of the DPF, stop the cleaning process. The ash could be an indication the DPF is cracked.
- If ash is seen escaping from the machine during a cleaning procedure, immediately stop the DPF Cleaner and check all connections.
- Unplug the DPF Cleaner before beginning any service work. Incorrect use or connections can cause electrical shock.
- An extension cord may overheat, resulting in a fire. If you must use an extension cord, use the shortest possible cord with a minimum size of 14 AWG.
- Use the DPF Cleaner only for the purpose of which it was designed. Use only those adapters approved by the manufacturer.

Explanation of Safety Signal Words



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Install the Neoprene Ring Seal

1. Remove the diesel particulate filter (DPF) from the vehicle according to the appropriate OE technical manual or bulletin regarding DPFs.
2. Place the DPF Cleaner on a sturdy and level surface.
3. Loosen the tie straps and thumb knobs, and remove the lid from the canister. See Figure 1.



Figure 1

4. Use the tape measure provided in the tool kit to measure the diameter of the DPF at the widest point where it will interface with the neoprene ring seal.
5. The DPF Cleaner is shipped with the small ring seal and the steel compression supporting ring installed. See Figure 2. Use the measurement taken in Step 4 to select the correct neoprene ring seal for your application.

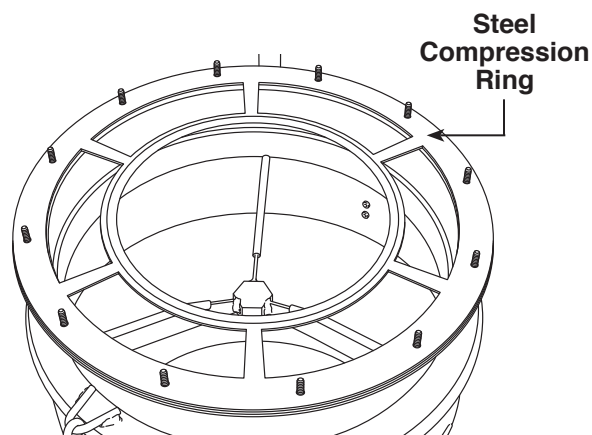


Figure 2

Canister Diameter	Ring Seal Size
325 mm — 400 mm	Large – remove steel compression ring
235 mm — 325 mm	Medium – remove steel compression ring
165 mm — 235 mm	Small – use steel compression ring

6. Install the ring seal, the clamping ring, and the thumb knobs. Align the tabs in the clamping ring with the straps.

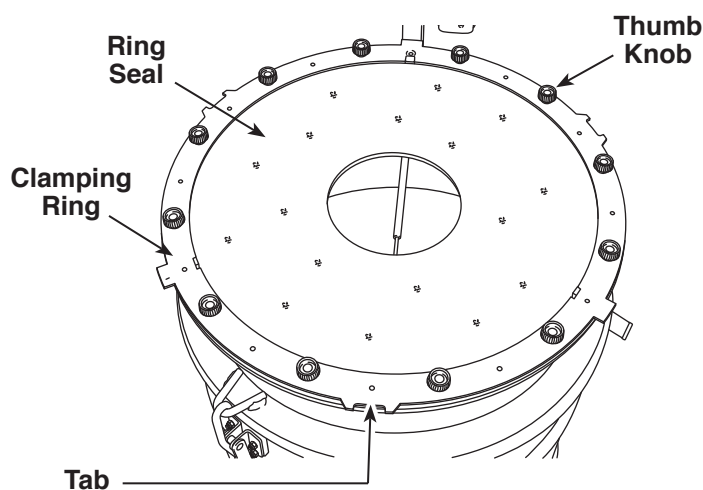


Figure 3

Setup

Install the DPF

1. Gently place the DPF into the machine. Center the DPF in the ring seal with the arrow on the side of the DPF pointing UP (indicating the direction of the exhaust flow). See Figure 4. Verify the ring seal is sealing against the canister body.
2. Use the tape measure provided in the tool kit to measure the diameter of the DPF at the widest point where it will interface with the neoprene ring seal.

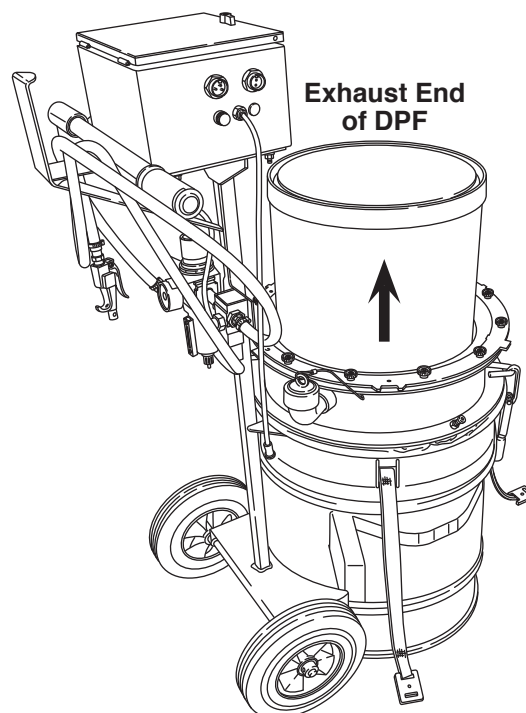


Figure 4

3. Use the DPF canister measurement taken in Step 2 to select the correct dust skirt size for your application.

Canister Diameter	Dust Skirt
285 mm — 400 mm	Beige fastening tape
165 mm — 285 mm	White fastening tape

4. Place the dust skirt over the DPF with the fastening tape facing up and the beige / white strip on the side near the control box. See Figure 5.

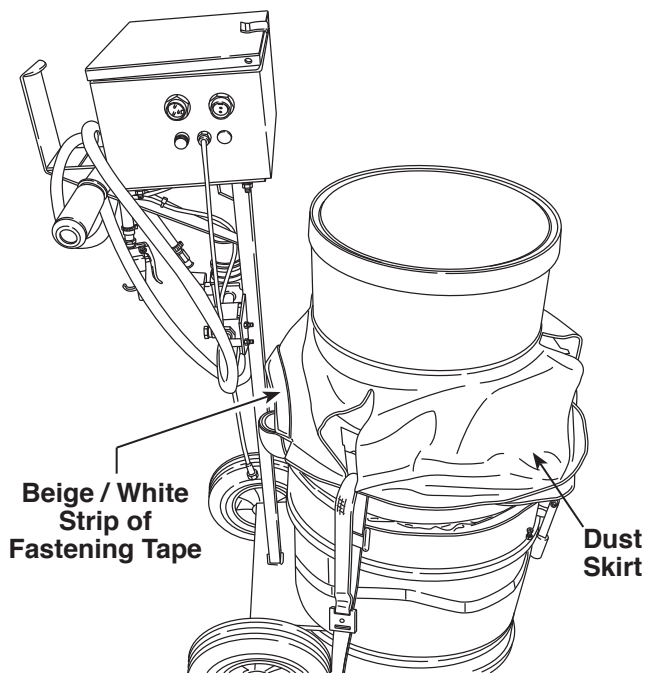


Figure 5

Assemble the Fixture

1. Assemble the three legs to the fixture as shown in Figure 6.

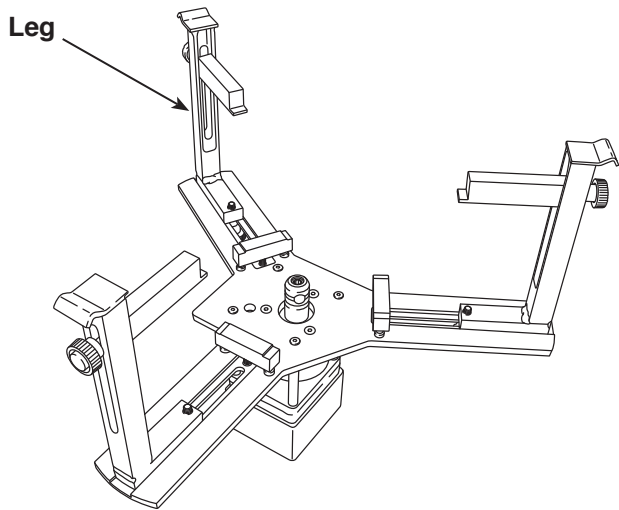


Figure 6

2. Use the tape measure provided in the tool kit to measure the outer diameter of the DPF at the uppermost edge where the fixture will rest.

Note: If the DPF has a flange, measure the outer diameter of the flange and add 50 mm to the measurement.

3. Lock the legs into position at the measurement taken in Step 2 for the canister diameter. See Figure 7.

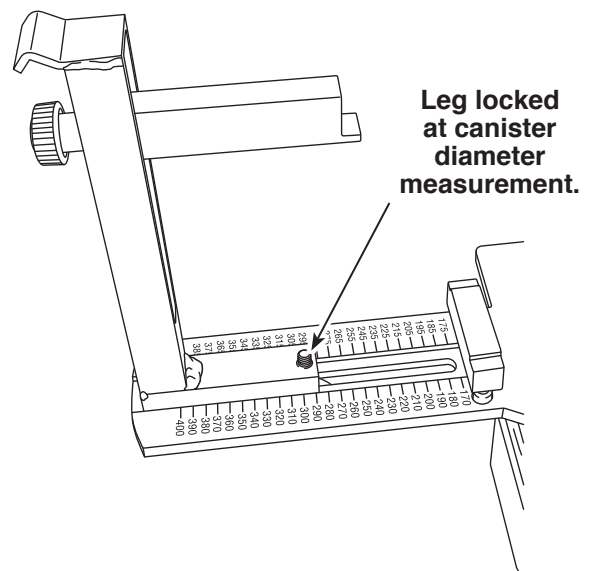


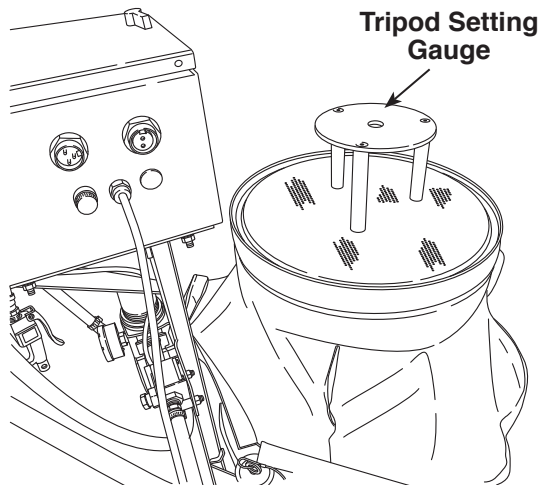
Figure 7

Setup

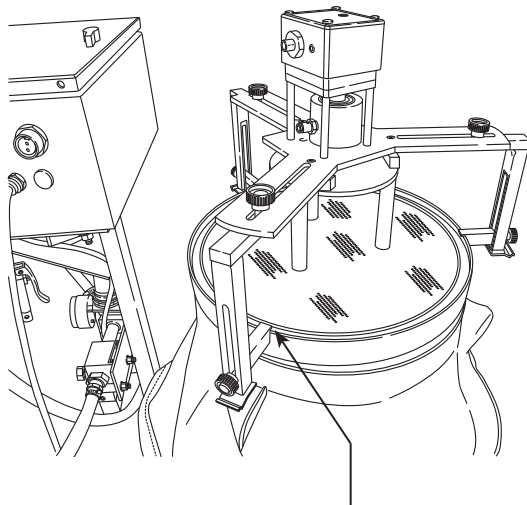
Assemble the Fixture contd.

Assembly for a Non-Flanged DPF

4. Place the tripod setting gauge on top of and centered on the DPF.



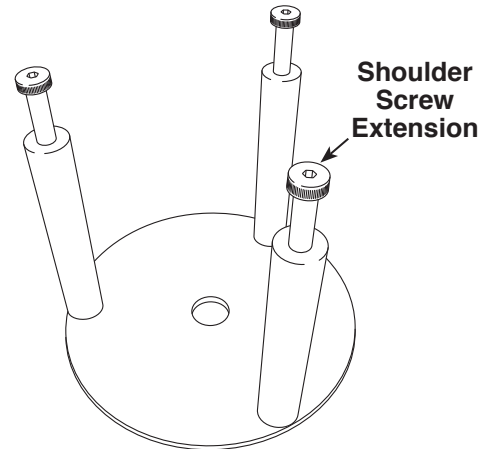
5. Place the fixture on top of the gauge. Slide the feet down to catch the lip of the DPF, and lock them evenly in place.



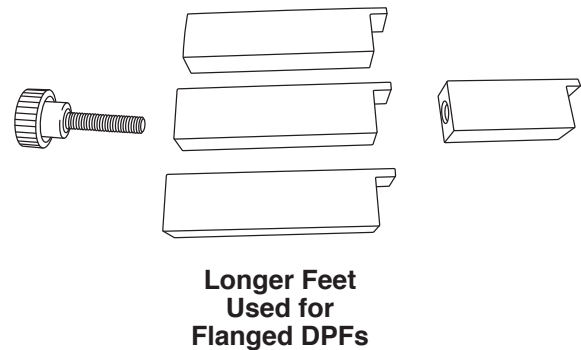
6. Remove the fixture and gauge from the DPF.

Assembly for a Flanged DPF

4. Install three shoulder screw extensions (provided) on the tripod setting gauge. Place the gauge on top of and centered on the DPF.



5. Replace the feet on the fixture with the longer feet provided in the kit.



6. Place the fixture on top of the gauge with the legs locked at the flange canister measurement. **Note: Remember to add 50 mm to the measurement.**

Slide the feet down to catch the lip of the DPF, and lock them evenly in place.

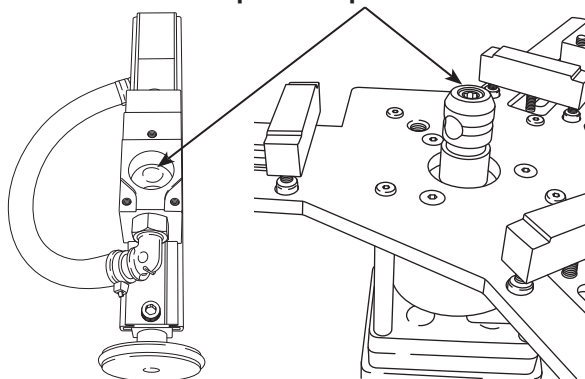
7. Remove the fixture and gauge from the DPF.

Assemble the Fixture contd.

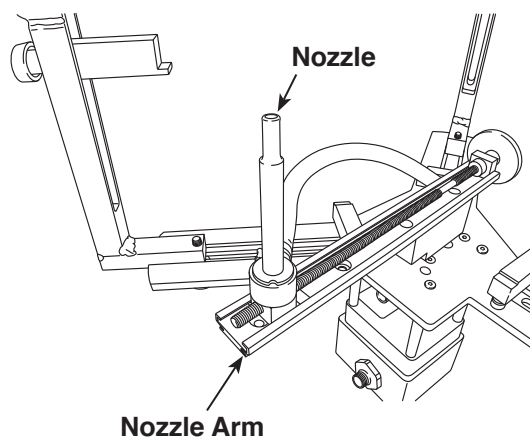
Assembly for a Non-Flanged DPF

7. Select the longest nozzle arm that will clear the legs of the fixture but still reach the outer diameter of the DPF. Connect the nozzle arm to the spindle shaft using an "align, push, and twist" movement. The spring-loaded ball should snap into the spindle detent.

**Spring-loaded Ball
Snaps into Spindle Detent.**



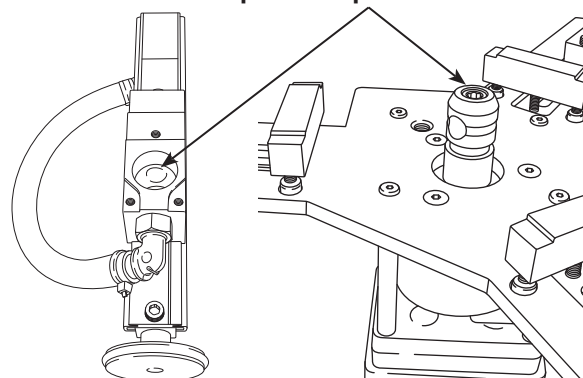
8. Thread the nozzle onto the arm and use the wrench provided to fasten it in place.



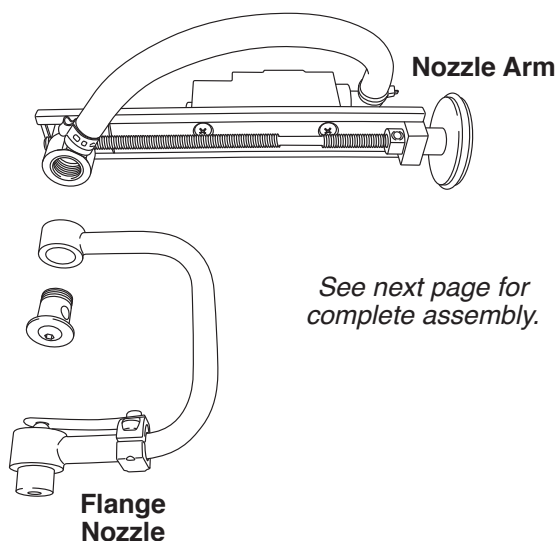
Assembly for a Flanged DPF

8. Select the longest nozzle arm that will clear the legs of the fixture but still reach the outer diameter of the DPF. Connect the nozzle arm to the spindle shaft using an "align, push, and twist" movement. The spring-loaded ball should snap into the spindle detent.

**Spring-loaded Ball
Snaps into Spindle Detent.**



9. Install the flange nozzle onto the nozzle arm using the supplied mounting nut. Install with the bent part of the nozzle parallel to the nozzle arm and pointing toward the center of the unit. Tighten the nut with the supplied hex key wrench.

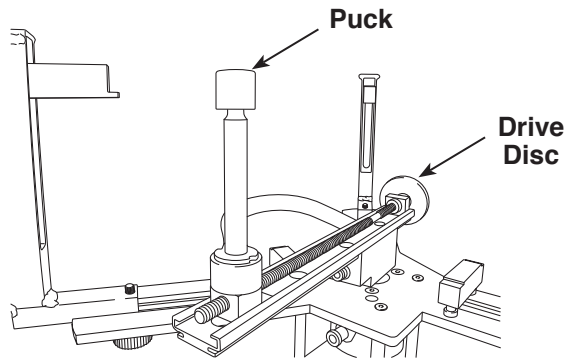


Setup

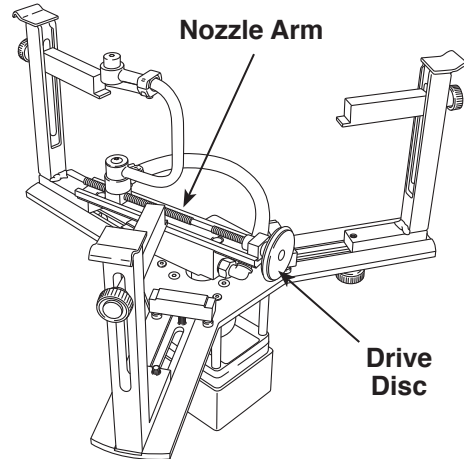
Assemble the Fixture contd.

Assembly for a Non-Flanged DPF

9. Slip the puck onto the nozzle.



Assembly for a Flanged DPF



10. Manually rotate the drive disc to ensure the swing of the nozzle clears the feet.
11. Position the fixture on top of the DPF with connecting receptacles pointing toward the control box. See Figure 8.

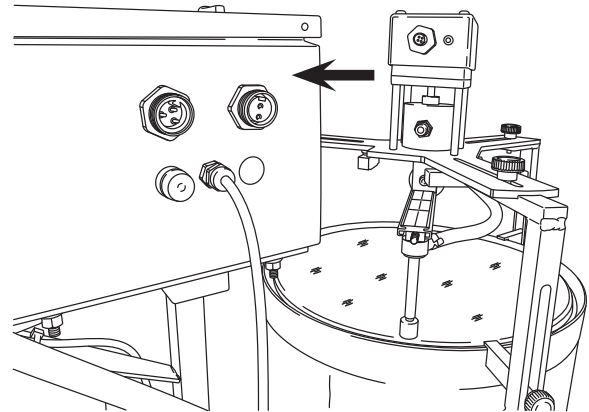


Figure 8

Seat the Nozzle Arm

1. Slide the three straps from the DPF Cleaner through the dust skirt slots and secure the straps to the fixture. The tension on the three straps must be equal. See Figure 9.
2. Rotate the nozzle arm so the drive disc on the end of the arm is off the three cam blocks.

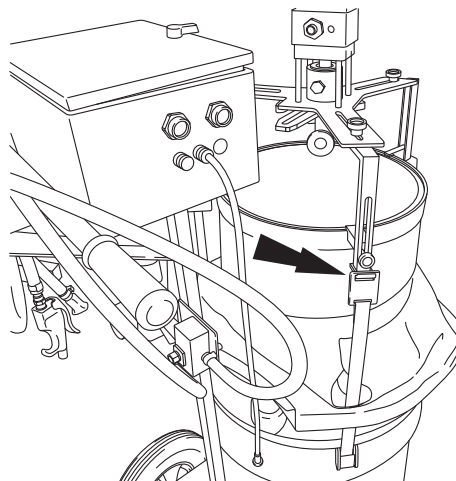


Figure 9

3. Manually rotate the drive disc counterclockwise (CCW) until the nozzle and puck are as close to the outer edge of the DPF substrate as possible. Refer to Figure 10.
4. Manually rotate the arm one full revolution to verify it is clear of any obstructions.
5. Inspect the puck to verify there is not a bind and that it is fully rested on the filter substrate.

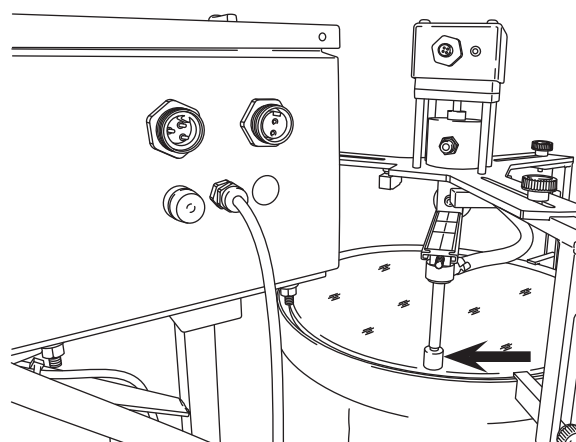


Figure 10

Setup

Assemble the Containment Hood

1. Attach the 90° elbow to the polycarbonate panel of the containment hood as shown in Figure 11.

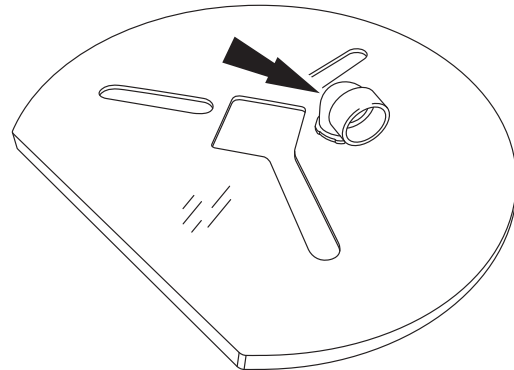


Figure 11

2. Place the hood on top of the fixture with the flat side toward the control box.
3. Raise the dust skirt, and start attaching the fastening tape to the hood at a point 180° from the flat edge of the hood. See Figure 12.
4. Continue to attach the dust skirt to the hood, working around both sides and ending at the flat edge of the hood.
5. Attach the HEPA vacuum to the 90° elbow.

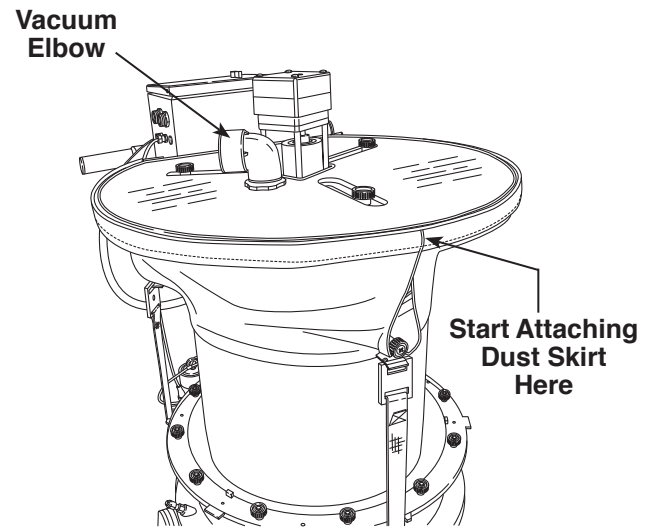


Figure 12

Air and Electrical Connections

1. Attach the wire lead from the control box to the motor fixture. See Figure 13.
2. Attach the quick connect air line from the valve to the fixture.
3. Verify all wires and hoses are out of the rotation range of the nozzle arm.

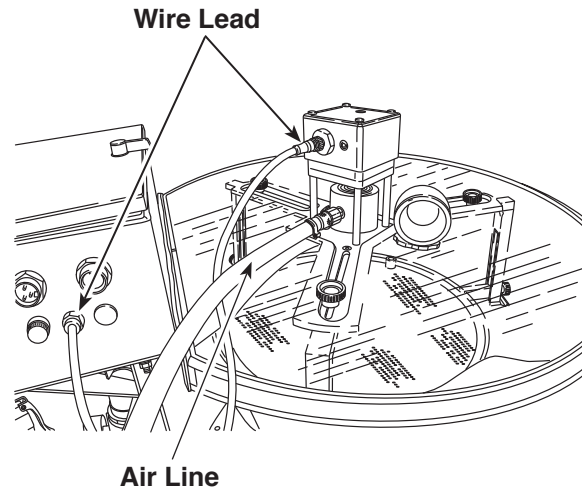


Figure 13

4. Attach a hose adapter (not included) and a 3/8 in. compressed air line to the pneumatic filter / regulator input. See Figure 14. The air line should have a sustained compressor capacity of 100 psi, and be clean and free of moisture.
5. Install the correct input voltage power cord between the control box and the power source.

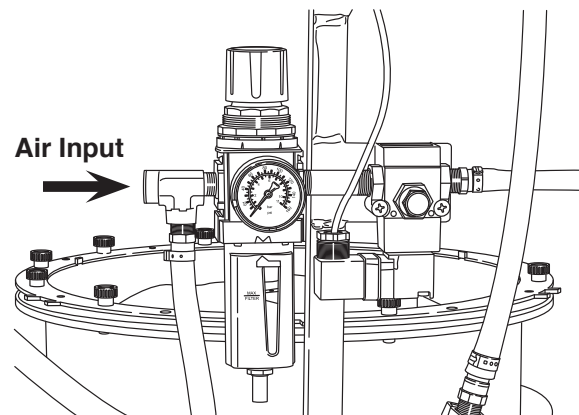


Figure 14

Control Box

1. Once a DPF has been loaded into the DPF Cleaner according to the instructions in the *Setup* section of this manual, open the cover of the control box. See Figure 15.
2. Refer to Figure 16 for explanations of panel button functions.

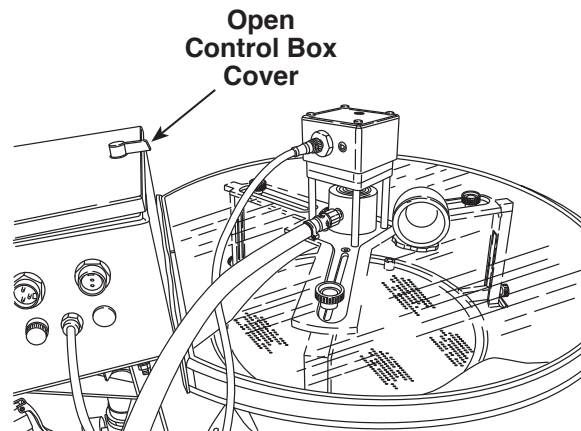


Figure 15

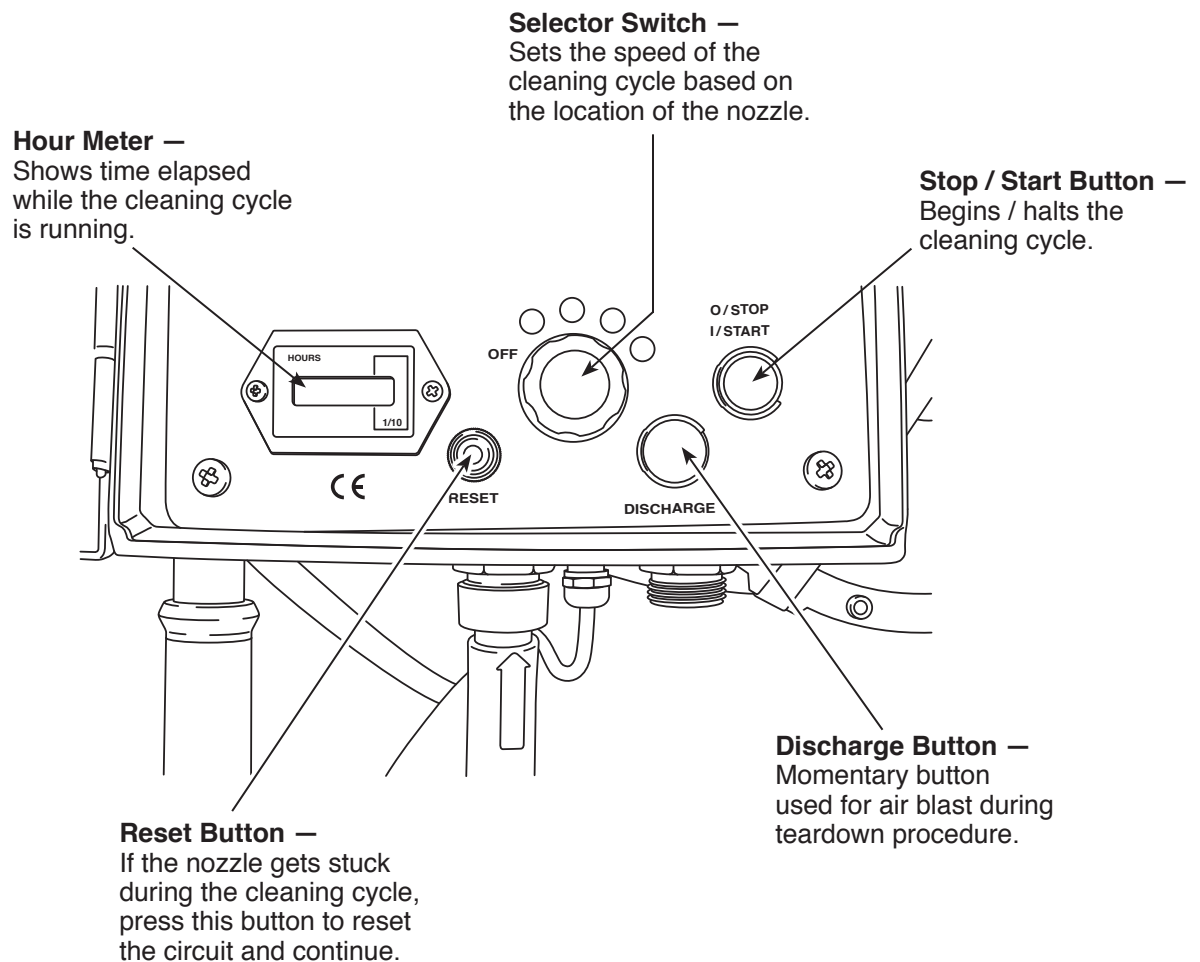


Figure 16

Cleaning Cycle



CAUTION: To prevent personal injury,



- Wear OSHA-standard ear and eye protection, and a dust mask rated N95.
- Use plastic or steel plugs to close any open ports on the DPF.
- Observe the cleaning process during the first minute of operation. If ash appears to be blowing out the top of the DPF, stop the cleaning process. The ash could be an indication the DPF is cracked.
- If dust is seen escaping from the machine during a cleaning procedure, immediately stop the DPF Cleaner and check all connections.

1. There are color ranges on the nozzle arm. See Figure 17. Determine the color range where the nozzle is resting under the nozzle arm. Set the selector switch on the control panel at the same color.
2. Verify the vacuum hose was attached during the *Setup* procedure. Start the vacuum.
3. Press and release the stop / start button on the control panel.
4. As the nozzle moves toward the center of the DPF and into a different color on the nozzle arm, change the selector switch on the control panel to match the color.

This speeds up the cleaning cycle. If this is not done, the cycle will still continue at the starting speed but take longer to complete the cycle.
5. The nozzle rotates to the center of the DPF and will dwell there until the machine is turned off.

Note: If the nozzle sticks in one spot during the cleaning cycle, it may trip the reset button.

1. Move the selector switch back to the *OFF* position to free the nozzle.
2. Press the reset button.
3. Change the location of the selector switch, if needed.
4. Press and release the stop / start button.

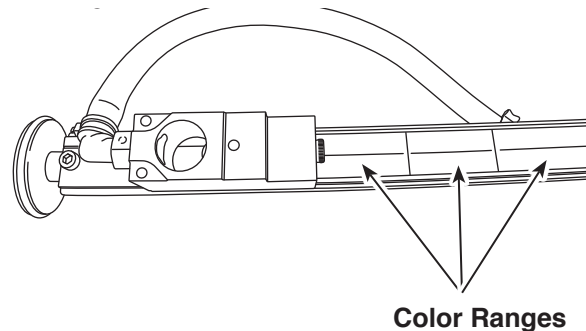


Figure 17



Tech Tip

The DPF Cleaner can help protect the DPF from the elements. Engage the pin on the underside of the lid into the pin hole located on top of the motor enclosure. This helps protect the DPF from moisture.

Teardown Procedure

1. Detach the air line and wire lead from the fixture base. See Figure 18.
2. Remove the hood, dust skirt, and fixture base from the DPF.

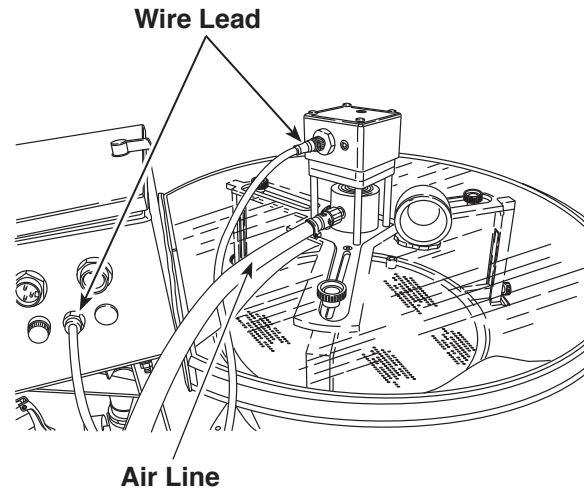


Figure 18

3. Attach the air line, that was removed from the fixture, to the air blast port on the intermediate base. See Figure 19.
4. Use the compressed air nozzle to lightly blow through the top of the DPF, covering the entire area of the substrate face. See Figure 20. This exercise helps to dislodge the ash that clings to the underside of the DPF.
5. Apply five (5) quick blasts of air by pressing the discharge button on the control panel five (5) times. Use a quick (one second) press and release motion.

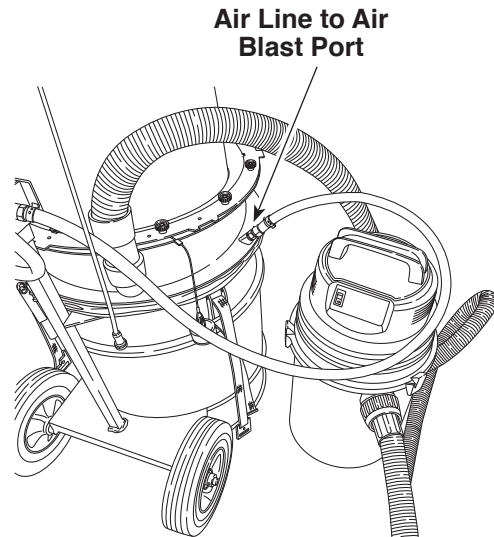


Figure 19

CAUTION: To prevent personal injury, use five quick (one second each) blasts of air. If the blasts of air are too long, or if too many are applied, it may pressurize the canister, forcing ash to escape from the sealing areas. Wear an N95-rated dust mask to avoid breathing the ash.

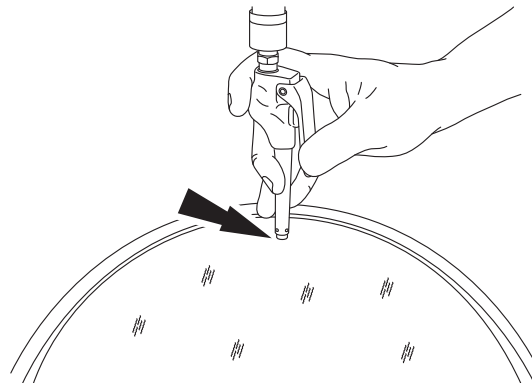


Figure 20

Teardown Procedure

6. Remove the rubber plug from the intermediate base, and insert the hose from the vacuum. See Figure 21.
7. Turn on the vacuum, and slowly lift the DPF from the machine.
8. Once the DPF has been removed, turn off the vacuum and replace the rubber plug.
9. Install the lid on the DPF Cleaner and fasten the straps to keep ash from escaping.
10. Disconnect the DPF Cleaner from the power supply.

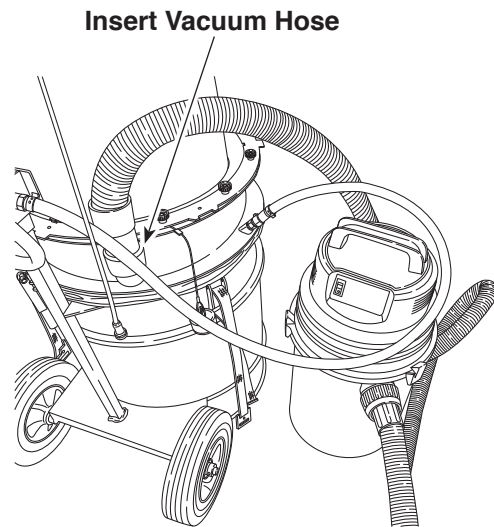


Figure 21

Troubleshooting Guide

Symptom	Solution
Ash is observed leaking from the DPF Cleaner.	<ol style="list-style-type: none">1. Stop the cleaning cycle. Look for damage on DPF sealing surface and cracks in the DPF.2. Stop the cleaning cycle. Verify all ports on DPF have been plugged.3. Stop the cleaning cycle. Check all connections.4. Thumb knobs will loosen over time. Check and tighten all thumb knobs.
Ash is observed leaking from the DPF.	<ol style="list-style-type: none">1. Stop the cleaning cycle. Remove the DPF from the machine and inspect for cracks.
Ash is observed leaking from the vacuum cleaner.	<ol style="list-style-type: none">1. Verify the ash collection cover is securely closed and latched.2. Look for damage in the cover seal.
DPF is not clean after performing a cleaning cycle.	<ol style="list-style-type: none">1. Check the orientation of DPF to verify the exhaust end of the DPF is positioned correctly. Refer to the section of this user manual named <i>Setup, Install the DPF</i>.2. Look for other DPF conditions that may prevent successful cleaning.
Nozzle sticks in one spot.	<p>If the nozzle sticks in one spot during the cleaning cycle, it will trip the reset button. Follow these steps to continue the cleaning cycle :</p> <ol style="list-style-type: none">1. Move the selector switch back to the OFF position to free the nozzle.2. Press the reset button.3. Change the location of the selector switch, if needed.4. Press and release the stop / start button.
Puck is suspended above the DPF substrate.	<ol style="list-style-type: none">1. Refer to the <i>Setup</i> section of this user manual and seat the puck back onto the DPF surface.

**If you need assistance, call the
DPF Technical Support Line : 800-822-5561**

Maintenance—Schedule

Component	Schedule
Air Filter / Regulator	Inspect before each use of the DPF Cleaner. Clean as needed if water or dirt are found.
Air Hoses	Inspect for cracks and other damage after every 50 hours of operation. Replace as needed.
Ash Bag	Replace after every 10 hours of operation.
Electrical Cords	Inspect for cracks and other damage after every 50 hours of operation. Replace as needed.
Neoprene Ring Seals	Inspect for rips and other damage after every 10 hours of operation. Replace as needed.
Tie Straps	Inspect for rips and other damage after every 50 hours of operation. Replace as needed.

Maintenance—Replace the Ash Bag



CAUTION: To prevent personal injury,



- Perform this procedure in an enclosed area free of air movement. Wear OSHA-standard eye protection and gloves, and a dust mask (rated N95).
- Never operate the DPF Cleaner without an ash bag installed in the canister.



This procedure is written for using Ash Bag Replacement Kit No. 563197.

Removal

1. Disconnect the DPF Cleaner from the power source.
2. Unclamp and remove the intermediate ring from the canister. See Figure 22.

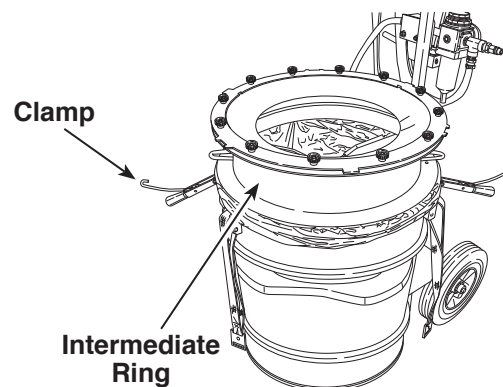


Figure 22

3. Remove the backing from the sealing membrane, and adhere the membrane to the top of the ash bag. See Figure 23.
4. Lift the ash bag from the canister.

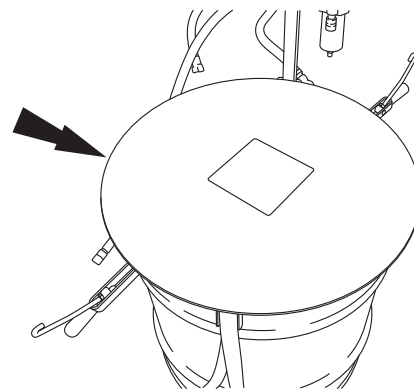


Figure 23

Maintenance—Replace the Ash Bag

Removal contd.

5. Slowly and gently press the air out of the ash bag. See Figure 24.
6. Insert and seal the ash bag into the recloseable bag provided in the replacement kit.



Figure 24

Installation

1. Install the new ash bag into the canister, folding the bag evenly around the outside edge.
2. Reinstall the intermediate ring, and clamp it to the canister, ensuring a tight seal to the ash bag. See Figure 25.
3. Vacuum clean the DPF Cleaner and the surrounding area as needed.
4. Dispose of the used ash bag according to federal, state, and local regulations regarding hazardous waste.

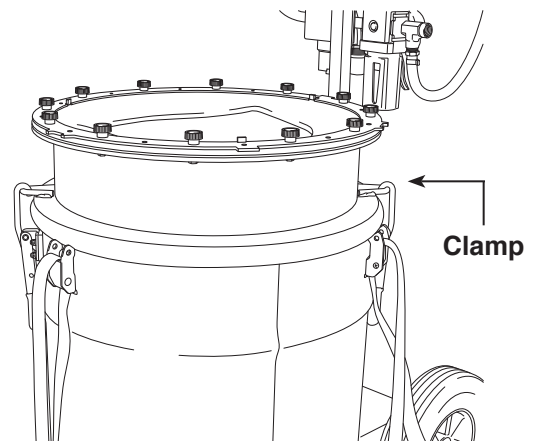


Figure 25

Replacement Parts

Replacement Parts List

Part No.	Qty.	Description
563190	1	Wet / Dry HEPA Vacuum
563192	1	Neoprene Skirt — small
563191	1	Neoprene Skirt — large
563193	1	HEPA Filter (for vacuum)
563194	1	Seal / O-ring Kit — consists of o-ring and small neoprene seal
563195	1	Seal / O-ring Kit — consists of o-ring and medium neoprene seal
563203	1	Seal / O-ring Kit — consists of o-ring and large neoprene seal
563197	1	Ash Disposal Kit
563198	1	Strap Replacement Kit
563199	1	Cable / Hose Replacement Kit
563200	1	Hardware Replacement Kit
563205	1	Air Knife — large
563206	1	Air Knife — small
563379	1	Fixture Leg Assembly Kit
563380	1	Nozzle Kit — short

Part No.	Qty.	Description
563381	1	Nozzle Kit — long
563382	1	Flange Filter Nozzle Kit
563383	1	Adjustment Foot Kit
563384	1	Flange Filter Adjustment Foot Kit
563385	1	Wheel Kit
563386	1	Pull Action Clamp Kit
563387	1	Cover Assembly Kit
563388	1	Filter Ring Kit
563389	1	Intermediate Base Kit
563390	1	Rubber Stop Assembly Kit
563391	1	Dust Cover Assembly Kit
563392	1	Valve Package / Filter Replacement Kit
563393	1	Electrical Box Kit
563394	1	Rotating Base Kit

At the end of its useful life, dispose of the machine according to current government regulations.

Disposal of Electrical / Electronic Equipment



- Public administration and producers of electrical / electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical / electronic equipment through the organization of special collection sites.
- Do not dispose of this equipment as miscellaneous solid municipal waste. Arrange to have it collected separately. Unauthorized disposal of waste electrical / electronic equipment is punishable by law with appropriate penalties.

Disposal of Ash

It is the responsibility of the user to determine if a material is a hazardous waste at the time of disposal. The user must ensure compliance with all applicable laws and regulations.

Disposal of the Machine

Deliver the machine to an appropriate disposal center.

**Submit your warranty registration on-line at :
Presente su registro de garantía en línea en :
Enregistrez votre garantie en ligne à l'adresse :
<http://spxwarrantyregistration.com/dpf/>**



655 EISENHOWER DRIVE
OWATONNA, MINNESOTA U.S.A. 55060-0995