



#9046F/#9046H/#9046FH

PNEUMATIC TANK SWEEPER®

# Operator's Manual



**Not for Use with Gasoline or Other Highly Volatile Fluids**

Innovative Products of America® Incorporated  
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## **LETTER FROM THE PRESIDENT OF IPA®**

My name is Peter Vinci and I am the president of IPA®. I would like to thank you for your interest in IPA®'s product line and share my commitment to you, our products and our policies. In today's world, we have all experienced the lack of service and consideration demonstrated by many companies after you buy their products. They say whatever they can to make the sale, and then it's like pulling teeth to get any service response out of them. I know this myself firsthand and because of this, I want to be sure that your experience with IPA® meets your expectations and that IPA® never disappoints you with our service or customer response.

To prove my commitment to you, if for any reason, you are not happy with one of our products – or more importantly, with the response from our customer service department, or any member of the IPA® team – I invite you to contact me directly via my email, [president@ipatools.com](mailto:president@ipatools.com) or call me at 888-786-7899. Your satisfaction is more important to me than the sale itself. We will not be in business for long if we don't make you completely happy with our products and service. I want IPA® to be different and be known for its quality and service.

With that said, please take a look at our product line. You will see innovative first time products that were created to help you do your job faster and better than before. I would also like to invite you to critique our products. If you can think of a better way to make them or changes that will make them work better, please contact me directly and I will be sure to look into it. If you have an innovation and would like some feedback, give me a call.

From all of us at IPA®, we thank you for taking the time to review our product line and wish you and your family the very best of everything.

**Peter Vinci**  
**President**  
**IPA®**

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# IMPORTANT SAFETY INSTRUCTIONS

**IT IS IMPORTANT TO READ, UNDERSTAND AND FOLLOW ALL SAFETY MESSAGES AND INSTRUCTIONS PRINTED IN THIS MANUAL AND ON THE EQUIPMENT BEFORE OPERATING. IF SAFETY INFORMATION IS NOT HEEDDED, SERIOUS INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS MAY OCCUR.**

## **DANGER**

Indicates a hazardous situation, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

## **WARNING**

Indicates a hazardous situation, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

## **CAUTION**

Indicates a hazardous situation, if not avoided, may result in minor or major injury. The possible hazards are shown in the adjoining symbols or explained in the text.

**THE FOLLOWING SAFETY ALERT SYMBOLS ARE USED IN THIS MANUAL.**



**SYMBOL 1: Potential burn hazard.** Sparks from electrical shorts can ignite flammable liquids such as fuel or oil. Heat from electrical overloads can cause fire hazards.

**SYMBOL 2: Potential explosive air hazard.** Pneumatic pressures used with this equipment can cause explosive failures on damaged equipment.

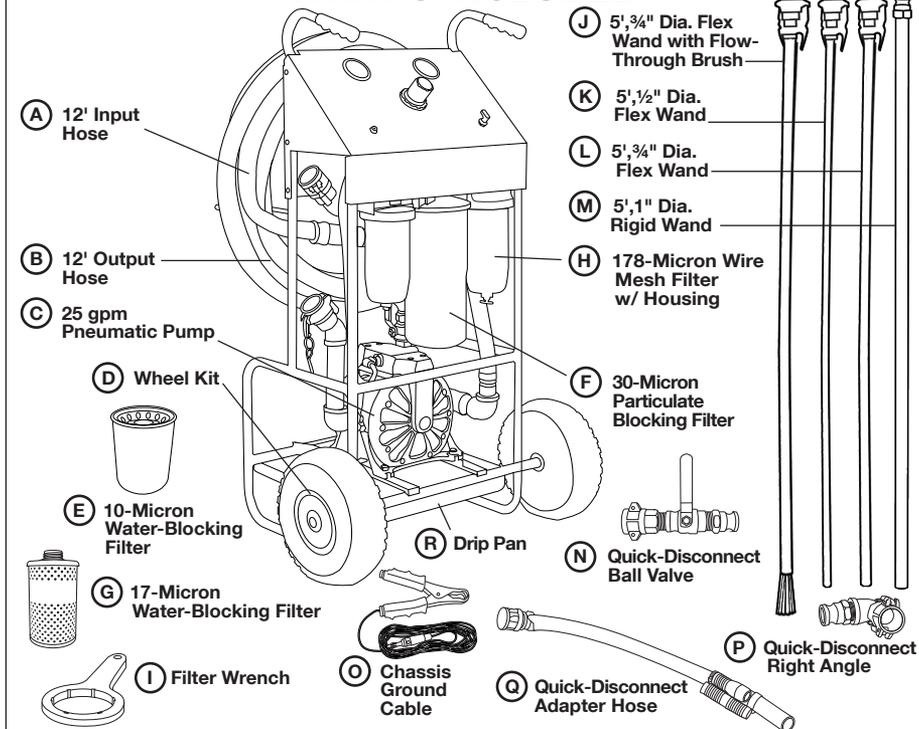
**SYMBOL 3: Potential eye hazard.** Wear OSHA approved safety glasses. Battery acid and high air pressures create hazardous situations for eyes.

**SYMBOL 4: Potential chemical burn hazard.** Wear protective gloves. Battery acid is corrosive and can cause skin damage.

**SYMBOL 5: Potential fire hazard.** Use caution with flammable liquids such as fuel and oil. Electrical shorts can ignite flammable liquids and wiring.

# NOT FOR USE WITH GASOLINE

# WHAT'S INCLUDED



(Image is not actual representation of final product. Exact location and style of fittings may vary.)

IPA® Part #	Description	Included with	QTY.
<b>A</b> #9046-INHOSE-AS	12' Input Hose	F/H/FH	1
<b>B</b> #9046-OUTHOSE-AS	12' Output Hose	F/H/FH	1
<b>C</b> #PMP00004	25 gpm Pneumatic Pump	F/H/FH	1
<b>D</b> #7900K-WHLKIT	Wheel Kit	F/H/FH	1
<b>E</b> #FIL-10WB	10-Micron Water-Blocking Filter	H/FH	2
<b>F</b> #FIL-30PB	30-Micron Particulate-Blocking Filter for Diesel and Fuel	F/FH	2
<b>G</b> #FIL-17WB	17-Micron Water-Blocking Filter	F/FH	2
<b>H</b> #FIL00002A	178-Micron Wire Mesh Filter w/ Housing	F/H/FH	1
<b>I</b> #FIL00005	Filter Wrench	F/H/FH	1
<b>J</b> #9046-BRWAND-AS	5' 3/4" Dia. Flex Wand w/ Flow-Through Brush	F/FH	1
<b>K</b> #9046-OUTPUT2-AS	5' 1/2" Dia. Flex Wand	F/H/FH	1
<b>L</b> #9046-OUTPUT-AS	5' 3/4" Dia. Flex Wand	F/H/FH	1
<b>M</b> #9046-INPUT-AS	5' 1" Dia. Rigid Wand	F/H/FH	1
<b>N</b> #9046-VALVE-AS	Quick-Disconnect Ball Valve	F/H/FH	1
<b>O</b> #007900K-2BCHAS	Chassis Ground Cable	F/H/FH	1
<b>P</b> #9046-90DEG-AS	Quick-Disconnect Right Angle	F/H/FH	1
<b>Q</b> #9046-HSADPTR-AS	Quick-Disconnect Adapter Hose	H/FH	1
<b>R</b> #9046-3	Drip Pan	F/H/FH	1

Use the Provided Reference Numbers When Ordering Products and Parts Above • Toll Free: 888-786-7899

# MUST READ BEFORE USE

This diaphragm pump is meant for use with liquids only. DO NOT suck up leaves, gravel or other solids. Doing so will void the warranty.

## SUMMARY

The Pneumatic Tank Sweeper® is a portable system designed for recovering and salvaging hydraulic/diesel fuel and oil. This system is offered in three model types: #9046F - for filtering diesel and fuel oil, #9046H - for filtering hydraulic oil, and #9046FH - for filtering diesel fuel, fuel oil and hydraulic oil. Specific options such as filters, wands and adapters are included for each model type. Each model utilizes diverter valves, which allow the user to bulk transfer without filtering for removing contaminants from the bottom of the tank where the majority of the sludge, water and debris settle. It also transfers through the filters for the purpose of polishing the fuel/oil, which is typically performed as a scheduled preventative maintenance procedure. The provided input and output wands are specifically built for these applications.

## SET-UP INSTRUCTIONS

### 1: ASSESSING THE CONDITION OF THE FUEL/OIL

It is recommended that you visit the site 48 hours before tank sweeping to prepare the tank and assess the site condition. Using the optional IPA® #9042 Sample Stick, insert the tool all the way down to the bottom of the tank you are cleaning. Draw the piston shaft up enough to get a good sample of the fuel (approximately 12"). Remove the Sample Stick and note the amount of water and crud at the bottom of the tank. It is recommended that you transfer the sample into a glass jar and allow the various contaminants to settle and separate for 24 hours. This will give you an idea of the fuel condition inside the tank and the amount/type of the contaminated fuel.

### 2: KILLING MICROBIAL GROWTH

Add an algae biocleaner or equivalent to the tank in appropriate amounts. Using the Sample Stick, stir the tank briskly to mix the algae cleaner into the oil. After 48 hours, the algae should be killed off and the tank is now ready for sweeping. If convenient and safe, you may use a small jack to elevate the tank a few degrees on one side to allow the majority of contaminants to collect on one end of the tank. This is the end you will choose to sweep.

### 3: REMOVING SLUDGE AND DEBRIS FROM BOTTOM OF TANK

**WARNING: Do NOT hook up air to cart until set-up is complete!**

1. Set up your Tank Sweeper® near the tank to be cleaned, allowing enough room for the input hose to reach the tank.
2. Install the output hose to the bulk/unfiltered output quick-disconnect fitting located on the side of the Tank Sweeper®.
3. Attach the output wand to the other end of the hose and insert into a 55-gallon drum (Note: Use a clean and leak-free 55-gallon drum).
4. Connect the desired wand to the input hose via couplers.

**WARNING: Be sure to use the locking pins on all the quick-disconnect fittings so that the locking levers do not vibrate loose.**

5. Insert the wand all the way down to the bottom of the oil/fuel tank you are cleaning.

6. Be certain to follow the ball/valve instructions indicated on the front panel of the unit. Attach air supply line to the inlet air on the pump assembly. Do not turn the air ball valve on yet.
7. Set the air pressure to 50 psi. Air operating range is from 50-100 psi. A setting of 50 psi is recommended to give the operator more control of the sweeping operation. Do not turn on the air ball valve yet.

**NOTE:** When ready to operate the Tank Sweeper®, be sure to check all connections for leaks and be prepared to shut down the Sweeper®. Have your emergency spill kit available and in reach.

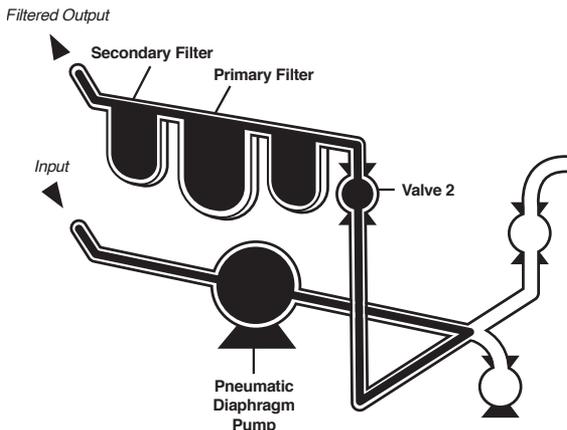
**NOTICE:** Especially during first use, it is best to have this operation performed by two people—one operating the air supply and the other person sweeping the tank.

8. Once the pump is pumping, the Tank Sweeper® will begin to remove the bottom contents of the tank where the majority of fuel contaminants exist, i.e., water, crud, algae and rust. The Tank Sweeper® operator should move the rigid wand in a sweeping motion back and forth across the bottom of the tank. You may first observe water, then black sludge-like-debris, and then the fuel/oil should begin to slowly change color to a healthy looking state. Being careful not to overflow the 55-gallon drum, quickly move the wand to a position where contaminants are still being suctioned. Repeat this sweeping function until only clean fuel is removed. It may be necessary to use two 55-gallon drums depending upon the amount of contaminants found.

**NOTE:** Be mindful of the 55-gallon drum level and be sure not to overflow. Have your emergency spill kit ready and available in case of a spill. Leave sufficient air space for expansion.

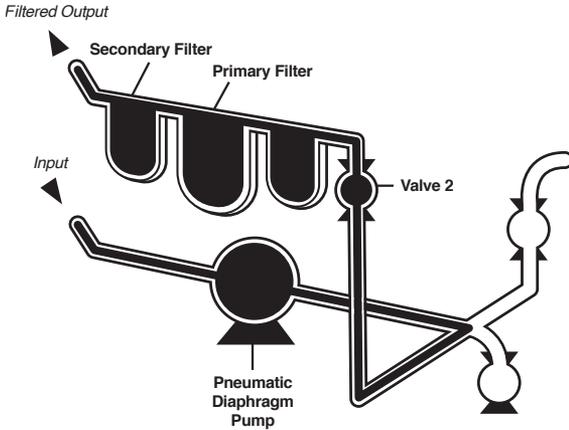
## PRIMING

1. Close all valves and adjust regulator to zero.
2. Insert input hose into clean fuel source (use wands when necessary).
3. Connect output hose to FILTERED OUTPUT on cart.
4. Connect primer adapter to end of output hose.
5. Open Valve 2.
6. Open SHOP AIR Valve.
7. Slowly increase regulator pressure to desired output.



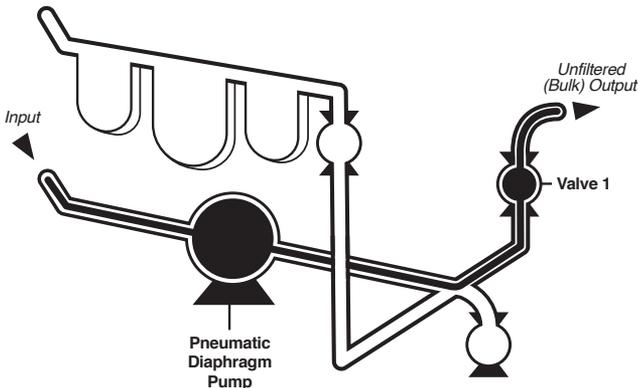
## FILTERING/POLISHING

1. Close all valves and adjust regulator to zero.
2. Insert desired wand into bottom of dirty tank and connect to input hose.
3. Connect output hose to FILTERED OUTPUT on cart.
4. Connect other end of output hose to desired wand and insert into desired destination.
5. Open Valve 2.
6. Open SHOP AIR Valve.
7. Slowly increase regulator pressure to desired output.



## BULK TRANSFER

1. Close all valves and adjust regulator to zero.
2. Insert input hose into fuel or oil source (use wands when necessary).
3. Connect output hose to UNFILTERED (BULK) OUTPUT.
4. Open Valve 1.
5. Open SHOP AIR Valve.
6. Slowly increase regulator pressure to desired output.



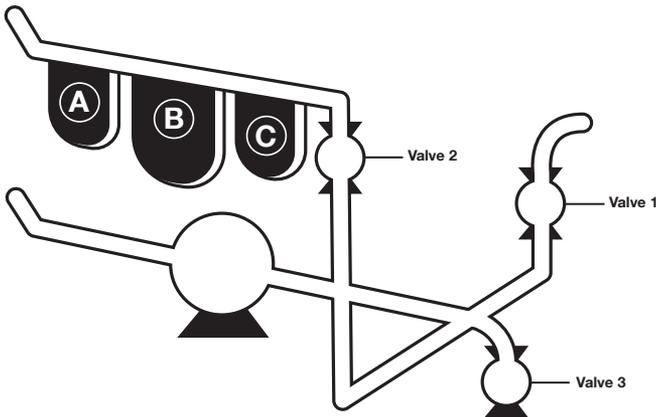
## ACCESS WANDS

The #9046 Pneumatic Tank Sweeper® series offers four wands for input and output depending on the unit. See below for a description of each wand.

1. 5' Long x 1" Dia. Rigid Wand: Should be used on the input side for accessing 55-gallon drums and other stationary tanks.
2. 5' Long x 3/4" Dia. Flex Wand: Can be used on either input or output side.
3. 5' Long x 1/2" Dia. Flex Wand: Only used on the output side to avoid restricting flow to the pump. The 1/2" wand is traditionally used for blasting the inside of tank walls with a higher pressure.
4. 5' Long x 3/4" Dia. Flex Wand w/ Flow-Through Brush: The flow-through brush is removable and should only be used with extreme caution to avoid losing the brush inside a fuel tank. Be sure to securely tighten the brush to the wand before use. (Comes with #9046F and #9046FH only. Available separately for #9046H.)

## CHANGING FILTERS

1. If output flow stops while pump is still active, the filters may be clogged. Verify the filters are clogged by disconnecting the air supply and observing OUTPUT/FILTER PRESSURE Gauge. If the filters are clogged, the gauge will continue displaying a high-pressure reading.
2. Prior to changing filters, be sure the drain pan is in place. Dissipate any remaining pressure in the system by opening the petcock at the base of the clear filter housing and Valves 2 and 3.



## OPTIONAL FILTERS

**NOTE:** Each unit comes with one extra filter for each option available to that unit. All filters can be used on any unit for desired fluids. Additional filters are available in 6-pack quantities.

	Image	Part #	Description	Reorder Part #
A		#FIL-30PB (Single)	30-Micron Particulate-Blocking Filter (Large Red Canister)	#FIL-30PB6 (6-pk)
A		#FIL-10WB (Single)	10-Micron Water-Blocking Filter (Small Brown Canister)	#FIL-10WB6 (6-pk)
A		#FIL-02WB (Single)	2-Micron Water-Blocking Filter (Large White Canister)	#FIL-02WB6 (6-pk)
A		#FIL-02PB (Single)	2-Micron Particulate-Blocking Filter (Large White Canister)	#FIL-02PB6 (6-pk)
B		#FIL-17WB (Single)	17-Micron Water-Blocking Filter (Small White Filter)	#FIL-17WB6 (6-pk)
C		#FIL000013 (Single)	178-Micron Wire Mesh Filter (Small Mesh Filter)	#FIL000013 (Single)

# AIR-OPERATED DIAPHRAGM PUMP DESCRIPTION

1:1 ratio, air-operated diaphragm pump with aluminum body and Buna N diaphragms. This pump is recommended for transferring oil or evacuating waste oil.

## PUMP TECHNICAL INFORMATION

Ratio	1:1
Air Pressure Operating Range	22 to 115 psi (1,5 to 8 bar)
Maximum Suction Head	14.76 ft (4,5 m) dry 22.97 ft (7m) wet
Weight	15.87 lb (7,2 kg) metallic series with Aluminum body
Fluid Inlet (single inlet)	1" BSP/NPT (F) and flange)
Fluid Outlet	1" BSP/NPT (F) and flange)
Air Inlet	$\frac{3}{8}$ " NPSM (F)

## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	SOLUTION
The pump continues operating although the outlet valve is closed.	There is a leak at some point of the outlet circuit.	Verify and tighten or repair.
	Check if valve balls and/or seats are worn.	Replace the worn items.
The pump does not operate or cycles once and stops.	Air valve is stuck or dirty.	Disassemble and clean the air valve.
	Check if valve ball is severely worn and wedged in seat.	Replace ball and seat.
The pump operates erratically.	Clogged suction line.	Verify and clean the suction line.
	Sticky or leaking valve balls.	Clean or replace.
	Diaphragm ruptured.	Replace diaphragm.
Air bubbles in fluid.	Suction line loose or damaged.	Verify and tighten or replace.
	Diaphragm ruptured.	Replace diaphragm.
Fluid in exhaust air.	Diaphragm ruptured.	Replace diaphragm.
The pump exhausts air at stall.	Worn parts in air valve.	Repair or replace.



# LIMITED TWO-YEAR WARRANTY

## #9046F/#9046H/#9046FH PNEUMATIC TANK SWEEPER®

Innovative Products of America® Incorporated has established a Limited Two-Year Warranty Policy for the Pneumatic Tank Sweeper®.

Limited Two-Year Warranty/Return/Replace Policy: The product is covered for two years from the date of original user purchase under the stipulations of the Standard Warranty.

The product is warranted to be free from defects in workmanship or material. If there is a problem due to workmanship or material defect, Innovative Products of America® will repair or replace the product within 24-working hours after it is received by the IPA® Repair Service Center. In the event it is determined that the product has been tampered with or altered in any way, the warranty is void and all claims against the product will not be honored. The Warranty Repair/Return procedures require that the proof of purchase must be established (either by warranty card from the seller or by point of purchase receipt/invoice) and the manufacturer makes every attempt to return ship the product within three business days from the receipt of the returned product, freight prepaid.

If it has been determined that the tool has been damaged due to misuse, Innovative Products of America® will repair the tool at a cost we deem reasonable and these charges will be the responsibility of the user. We truly want you to be happy with our products, so if you have any questions, call us toll free at 888-786-7899.



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