



**'EP' SERIES**

# **AIR DRIVEN TUBE CLEANER**



## **OPERATING INSTRUCTIONS & SERVICE MANUAL**

Rev: A, 2/22/2007

**TO REDUCE THE RISK OF INJURY AND EQUIPMENT DAMAGE  
USER MUST READ AND UNDERSTAND OPERATOR'S MANUAL.**

**Thomas C. Wilson, Inc.**

21-11 44th Avenue, Long Island City, New York 11101  
Tel: (718)729-3360 Fax: (718)361-2872 <http://www.tcwilson.com>  
E-mail: [tcwilson@tcwilson.com](mailto:tcwilson@tcwilson.com)

# SAFETY INSTRUCTIONS



## WARNING!

### **READ AND UNDERSTAND ALL INSTRUCTIONS**

Failure to follow all instructions listed below, may result in accident, fire and/or personal injury.

### **SAVE THESE INSTRUCTIONS**

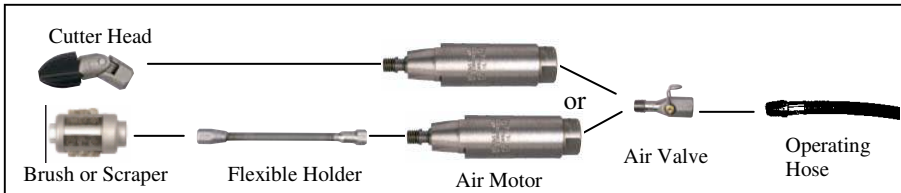
1. Do not allow corrosive gases or foreign material to enter the motor. Moisture, oil-based contaminants, or other liquids must be filtered out.
2. Do not hold a running motor with your bare hand. Shock from a high-speed motor's vibration may be experienced as a result.
3. Eye protection is always required when running motor.
4. Hearing protection is recommended when in close proximity to all operating air motors.
5. Dust mask, non-skid safety shoes, hard hat, gloves and other personal safety equipment must be used.
6. Stay alert, watch what you are doing, and use common sense when operating a power tool.
7. Dress properly. Do not wear loose clothing or jewelry.
8. Remove adjusting keys or wrenches before turning the tool on.
9. Keep your work area clean and well lit.
10. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.
11. Disconnect the tool from the air supply before installing, making any adjustment, changing accessories, servicing or storing tool.
12. Do not allow the air motor to 'run free' at high speed with no load. Excessive internal heat build-up, loss of internal clearance and rapid motor damage may result.

# OPERATION

RECOMMENDED OPERATING AIR PRESSURE 90 PSI (6.2 BAR)  
MAY BE OPERATED AT 80 TO 125 PSI (5.5 TO 8.6 BAR)

## How To Set Up The Tube Cleaner:

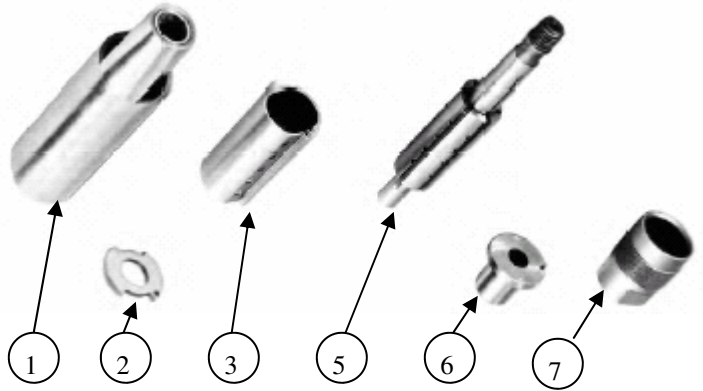
1. Blow out air line before attaching operating hose in order to remove all dirt, rust, water or other foreign matter.
2. Attach in-line automatic lubricator (optional equipment; see page 5) or Filter, Lubricator & Regulator Assembly to air outlet. Connect operating hose.
3. Blow out the air line and operating hose again.
4. Connect the tube-cleaner air valve (optional equipment; see page 5) to the operating hose.
5. Attach motor to air valve, making sure connection is wrench-tight – but not jammed – to prevent air leakage.
6. Attach the cleaning or brushing tool to Flexible Holder.
7. Using wrench supplied with equipment, attach Universal Joint or Flexible Holder to motor.



## How To Operate The Tube Cleaner:

1. Don't let the cleaning tool run out of the end of the tube – you'll damage it. A good practice is to mark the operating hose with tape or other visible marking to indicate exact length of tube. If tube allows, move motor thru tube first without operating. Then mark length.
2. Insert the cleaning tool into the tube, then open the air valve and feed the motor into the tube slowly enough to properly clean the tube. A method of feed in one foot, back out 6 inches and then feed another foot is a good practice.
3. Keep the motor running when pulling it back through the tube.
4. Shut off the air and stop the motor before taking it out of the tube.
5. If cleaning tool jams in deposit, pull motor back gently to release it. Motor should regain full power. Then feed tool and continue cleaning.
6. If motor functions improperly, it is probably due to faulty lubrication or dirt in the air line. Take motor apart and clean all parts, including the motor blades. See page 5 for disassembly instructions.

## PARTS LIST



KEY	DESCRIPTION	EP-137	EP-150	EP-175	EP-200	EP-225	EP-250	EP-275	EP-300
	Motor Assembly	4622-0131	3942-0143	2000-0156	2012-0181	7968-0212	2044-0231	2058-0262	2072-0281
<b>1</b>	Body	5818-0131	5819-0143	5820-0156	5821-0181	5822-0212	5823-0231	5825-0262	5827-0281
<b>2</b>	Wear Plate	4628	3945	2008	2022	2039	2052	2070	2082
<b>3</b>	Cylinder	4625	3943	2004	2018	2033	2048	2062	2079
<b>4</b>	Blades (set of 6)	4626	3946	2005	2019	2036	2049	2063	2080
<b>5</b>	Rotor	4623	3944	2003	2017	7969	2047	2061	2078
<b>6</b>	Rear Journal	4627	3948	2007	2021	2038	8836	8837	8509
<b>7</b>	Retainer Nut	4630	3950	2010	2024	2041	2054	2069	2087
	Cylinder Pin	6604	6604	6616	6616	6622	6626	6633	6631
	Rear Journal Pin	6602	6602	6600	6612	6623	6626	6631	6631
	Rotor Wrench	2031	3951	5760	2034	2034	2156	2157	2159

## PARTS LIST



EP-325	EP-350	EP-375	EP-400	EP-425	EP-450	EP-475	EP-500	EP-525	EP-550	EP-575	EP-600
2072-0306	2091-0325	2091-0350	2109-0375	2109-0400	2109-0425	2109-0450	2109-0475	3142-0500	3142-0525	3142-0550	3142-0575
5827-0306	5831-0325	5831-0350	5835-0375	5835-0400	5835-0425	5835-0450	5835-0475	5837-0500	5837-0525	5837-0550	5837-0575
2082	2100	2100	2120	2120	2120	2120	2120	3149	3149	3149	3149
2079	2097	2097	2126	2126	2126	2126	2126	3145	3145	3145	3145
2080	2098	2098	2118	2118	2118	2118	2118	3146	3146	3146	3146
2078	2096	2096	2117	2117	2117	2117	2117	3143	3143	3143	3143
8509	8839	8839	8841	8841	8841	8841	8841	8842	8842	8842	8842
2087	2105	2105	2125	2125	2125	2125	2125	3151	3151	3151	3151
6631	6633	6633	6636	6636	6636	6636	6636	6637	6637	6637	6637
6631	6631	6631	6636	6636	6636	6636	6636	6636	6636	6636	6636
2159	2149	2149	2149	2149	2149	2149	2149	2630	2630	2630	2630

## DISASSEMBLY

### How To Change Rotor Blades:

1. Hold Motor Body (key 1) at the flats with a wrench or in a vise and turn Retainer Nut (key 7) counter-clockwise at the flats with a wrench. Remove Retainer Coupling.
2. Tap front of Rotor (key 5) to push Rear Journal (key 6) and Rotor out from the rear.
3. Remove all six Blades (key 4).
4. Inspect condition of Cylinder (key 3) and Wear Plate (key 2).
5. Clean and inspect all internal parts for wear, scratch or gouge.
6. To re-assemble, insert Rotor into Motor Body.
7. Insert new Blades into slots of Rotor.
8. Insert Rear Journal over Rotor, making sure pin align with locating hole in Cylinder (see following illustration).



9. Screw on Retainer Coupling and tighten with a wrench making sure that the Rotor spins freely.
10. Add a few drops of lubricating oil through Retainer Coupling and test-run motor for 5 minutes before applying any attachment.

### Air Valve



Pipe NPT	Air Valve
1/4"	9439
3/8"	8774
1/2"	8654
3/4"	8647
1"	8669

### Filter-Regulator-Lubricator

Pipe Thread	Manifold Type	Portable Type
1/4" NPT	8905	8905-0250
3/8" NPT	8906	8906-0375
1/2" NPT	8907	8907-0500
3/4" NPT	8908	8908-0750
1" NPT	8909	8909-1000

# MAINTENANCE

## Lubrication

1. To lubricate motor, use Wilsolube #9047 or synthetic oil .
2. Feed 10 to 20 drops per minute with a automatic lubricator (feed rate is adjustable) depending on the size of motor. This small amount of oil will not coat the tubes. It will be absorbed and blown out with debris.
3. If you do not have an auto lubricator, use an oil can to apply a few drops of oil into the exhaust ports of the motor. Turn motor by hand to distribute the oil and then blow out motor before inserting into the tube.
4. Keep motor lubricated at all times.

## Storage

1. Before storing your tube cleaner, clean and oil it thoroughly with machine oil to prevent rusting.
2. The best method of storing straight tube motors is to keep them in oil.
3. For curved tube motors, suspend the motor in oil keeping the hose piece above the level of oil as the hose will not stand prolonged immersion in oil.

# TROUBLE-SHOOTING

PROBLEM	CAUSE & SOLUTION
<b>Motor is sluggish or inefficient</b>	<ol style="list-style-type: none"> <li>1. Dirt accumulates inside air motor —Try flushing air motor with recommended solvent.</li> <li>2. Faulty lubrication —Feed 10 to 20 drops of lubrication oil per minute.</li> <li>3. Inadequate air pressure —Maintain 80-125 psi pressure.</li> </ol>
<b>Motor won't turn</b>	<ol style="list-style-type: none"> <li>1. Foreign material is present in motor chamber —Take motor apart and clean all parts, including rotor blades.</li> <li>2. Rotor Blade is broken —Replace if necessary.</li> <li>3. Bearing was installed incorrectly —See page 5 for assembly instructions</li> </ol>
<b>Cleaning tool jams in deposit</b>	Pull motor back gently to release it.

# SPECIFICATIONS

<b>Motor Model</b>	<b>Nom. Tube I.D.</b>	<b>Motor Body Dia.</b>	<b>Rotor Thread</b>	<b>Hose &amp; Coupling</b>	<b>C.F.M. at 90 PSI</b>
<b>EP-137</b>	1-3/8"	1-5/16"	7/16X14	3/8	32
<b>EP-150</b>	1-1/2"	1-7/16"	7/16X14	1/2	45
<b>EP-175</b>	1-3/4"	1-9/16"	9/16X12	1/2	47
<b>EP-200</b>	2"	1-13/16"	5/8X11	3/4	70
<b>EP-225</b>	2-1/4"	2-1/8"	3/4X10	3/4	73
<b>EP-250</b>	2-1/2"	2-5/16"	3/4X10	3/4	100
<b>EP-275</b>	2-3/4"	2-5/8"	7/8X9	1	108
<b>EP-300</b>	3"	2-13/16"	1X14	1	152
<b>EP-325</b>	3-1/4"	3-1/16"	1X14	1	152
<b>EP-350</b>	3-1/2"	3-1/4"	1-1/8X12	1	164
<b>EP-375</b>	3-3/4"	3-1/2"	1-1/8X12	1	164
<b>EP-400</b>	4"	3-3/4"	1-1/8X12	1	175
<b>EP-425</b>	4-1/4"	4"	1-1/8X12	1	175
<b>EP-450</b>	4-1/2"	4-1/4"	1-1/8X12	1	175
<b>EP-475</b>	4-3/4"	4-1/2"	1-1/8X12	1	175
<b>EP-500</b>	5"	4-3/4"	1-1/8X12	1	175
<b>EP-525</b>	5-1/4"	5"	1-3/8X12	1	225
<b>EP-550</b>	5-1/2"	5-1/4"	1-3/8X12	1	225
<b>EP-575</b>	5-3/4"	5-1/2"	1-3/8X12	1	225
<b>EP-600</b>	6"	5-3/4"	1-3/8X12	1	225

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