



Wyco Pneumatic Operator's and Service Manual

"BD" Pneumatic Concrete Vibrators

READ ALL SAFETY INSTRUCTIONS

1. **WORKING AREA:** Do not operate a machine that is powered by a gas or diesel engine in a poorly ventilated space. These type of engines produce toxic gasses which cause serious health problems.
2. **POWER EQUIPMENT:**
 - Pneumatic Machine: Check that the compressed air hose and the hose coupling are not damaged.
 - ▲ **WARNING: Never attempt to loosen any compressed air hose that is pressurized.** First switch off the air at the compressor and then allow the machine to run to a stop to discharge any existing compressed air.
 - Machine Powered By Gas or Diesel Engine: Gas has an extremely low flash point and can be explosive in certain situations. ▲ **WARNING: Keep away from all hot or spark generating objects, do not smoke when handling fuel.** Wait until the machine has cooled before filling the tank. Avoid spilling gas or diesel fuel on the ground.
3. **GENERAL SAFETY INFORMATION & EQUIPMENT:**

The admissible sound of 85 dB (A), can be exceeded because of the machine and/or the application. Long time exposure to loud noise without ear protection can cause permanent damage to hearing. Long time exposure to vibration can cause damage to the hands fingers and wrists. Do not use these vibrators if you are experiencing discomfort, cramping or pain. Consult a doctor before working again with the vibrator.
3. **SAFETY INFORMATION & EQUIPMENT (cont'd):**

Always use approved safety equipment. The following safety equipment applies to operators and other personnel in the immediate vicinity of the working zone.

 - Safety Helmet - Protective Gloves
 - Ear Protection - Protective Shoes
 - Dust mask (dusty environments) - Eye Protection
4. **MACHINE KNOWLEDGE:** Before starting the equipment make yourself familiar with the machine and make sure that the machine does not show any obvious faults or wear. Then start the machine according to the instructions.
5. **OPERATION:** Use the machine only for the purpose for which it is intended. Make sure you know how to stop the machine quickly in the event of an emergency situation. Do not touch rotating parts during operation.
6. **MAINTENANCE:** Maintenance work must only be carried out by a skilled operator. Keep unauthorized people away from the machine. Do not carry out maintenance work while the machine is moving or while the engine is running. Never use a machine that is damaged.
7. **BE ALERT:** Always concentrate on what you are doing. Use common sense and never operate the machine if you are tired or under the influence of drugs, alcohol or other substances which can affect your vision, reaction time, ability or judgement.

TECHNICAL DATA

Type	BD 35	BD 55	BD 65	BD 75
Head Diameter in(mm)	1.42(36)	2.20(56)	2.64(67)	3.03(77)
Head Length in(mm)	10.51(267)	13.54(344)	14.37(365)	15.67(398)
Head Weight lbs(kg)	3.3(1.5)	9.9(4.5)	17.38(7.9)	19.6(8.9)
Amplitude (Total at tip) in(mm)	.027(.69)	.037(.94)	.054(1.37)	.070(1.78)
Frequency (Max at 85 psi) (v.p.m.)	17,600	17,700	17,700	17,000
Centrifugal Force (Max at 85 psi) lbs(kg)	441(200)	1484(675)	2548(1158)	3278(1490)
Air Consumption (Max at 85 psi) (cfpm)	27	54	54	85

Operation & Service Information

OPERATION AND MAINTENANCE

- **CLEAR AIR SUPPLY LINE:** Before connecting vibrator, clear the compressed air supply line of possible impurities, contaminants and water.
- **LUBRICATE:** Every day or every four hours of continuous service, pour a ½ teaspoon of non-detergent (Viscosity 20 to 30 SAE) oil into the quick release coupling. **NOTE: An optional oiler/strainer is available (See Page 3)**
 - ▲ **WARNING: So as to facilitate shipment, new or repaired units are not lubricated before delivery to customers.**
 - ▲ **WARNING: Do not use hydrocarbons and especially do not use fuel oil for lubricating purposes.**
- **CONNECT:** Connect the vibrator to the quick release coupling securely. Insure that locking pin is in place.
- **START:** To start vibration, rotate the variable control assembly near the quick release coupling. It is sometimes necessary to tap the head to begin vibration. If the vibration intensity drops, check that the filters are not clogged or that hoses are not kinked.
- **STORAGE:** To properly store unit after use, hang the vibrator with the head up and set the handle (variable control assembly) in the open position to permit the discharge of possible impurities, contaminants and water.

DISASSEMBLY INSTRUCTIONS

VIBRATOR HEAD:

- Hold vibrator head housing in a vice and unscrew the tip. (1) (Right Hand Thread)
- Remove vibrator head from vice and tap vertically on a wooden block. This will aid in the removal of the front flange (3) and the rotor. (4)
- Again clamp vibrator housing in vice and unscrew hose holder. (11) (Left Hand Thread)
- Remove rear flange (7) (tap on wooden block if necessary), cut hose clamp (9) & remove inlet hose (13) from flange nipple. (8)
- Unscrew the hose retain sleeve (10) & remove exhaust hose (12). Also remove spring (See Optional Parts List) from this hose only when it is provided.
- Cut hose clamp (14) on the outer end cap (17) and remove exhaust hose. (12)

VARIABLE CONTROL ASSEMBLY:

- Unscrew the outer end cap (17) (Right Hand Thread). Cut hose clamp (9) & remove inlet hose. (13)
- Remove screw from bushing. Remove body from bushing. (Tap on a wooden block if necessary).

Note: Make use of the maintenance kits (See Page 3)

ASSEMBLY INSTRUCTIONS

VIBRATOR HEAD:

- Reverse previous procedure.
- Replace the following parts each time the vibrator head has been disassembled:
 - Vane (5)
 - O-Rings (2 & 16)
 - Filter (on quick disconnect)
 - Hose Clamps (9 & 14)
- Slightly lubricate all parts before reassembly.
- Adjust the new vane (5) so that it slides snug in the groove in the rotor (4). **Note:** Be sure that vane (5) slots are facing away from cutout in rotor (4).
- Check the condition of front (3) & rear (7) flange & replace them if there is a hollow area where the rotor turns.
- Reassemble tip (1) & outer hose holder (11) making sure that the O-rings (2) are in place.

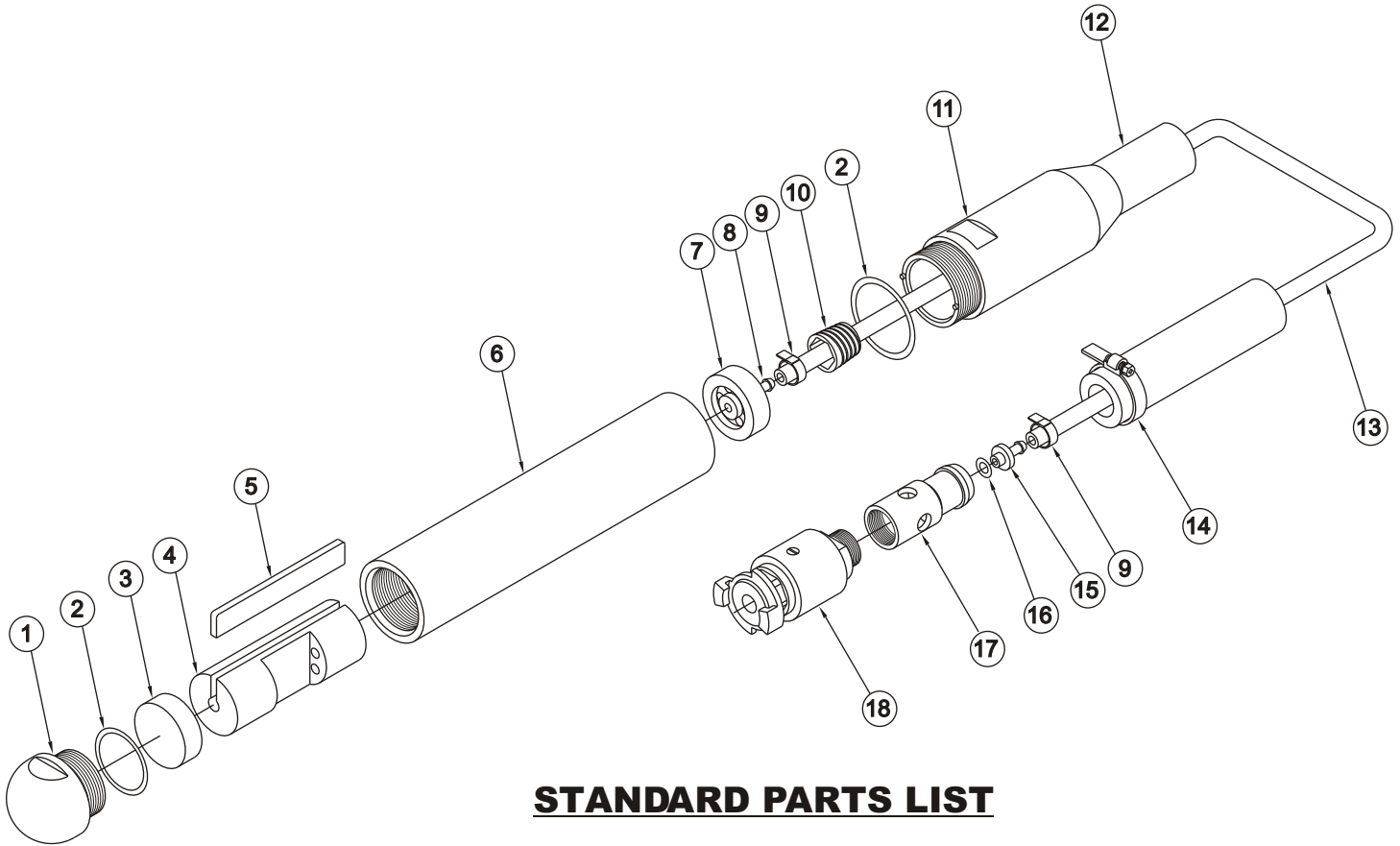
VARIABLE CONTROL ASSEMBLY:

- Reverse previous procedure.
- Replace O-rings on body making sure you do not cut O-rings when sliding body back into bushing.
- Reassemble all hoses onto the vibrator head assembly and reattach the on/off control valve.

* When screwing tip and hose holder into housing torque as follows:

- | | | | |
|---------|------------|---------|------------|
| - BA 35 | 37ft/lbs | - BA 65 | 434 ft/lbs |
| - BA 55 | 246 ft/lbs | - BA 75 | 636 ft/lbs |

Drawing & Parts List



STANDARD PARTS LIST

Item	Qty	BD35	BD55	BD65	BD75	Description
		187901	187903	187904	187905	
1	1	182619	182905	182641	183031	Tip, Pneumatic
2	2	*160311	*160014	*160217	*924834	O-Ring, Buna-N; 70 Dur
3	1	-	182635	182643	182650	Flange, Front; Pneumatic
4	1	368071	368065	368061	368047	Rotor, Pneumatic
5	1	*182623	*182637	*182645	*182653	Vane, Pneumatic
6	1	368072	368066	368062	368048	Housing; Pneumatic
7	1	182625	182639	184110	182655	Flange, Rear; Pneumatic
8	1	182626	105521	105521	107690	Nipple, Flange; Pneumatic
9	2	*259602	*259602	*259602	*259602	Clamp, Hose; Bandit; Jr.
10	1	102623	101582	101582	101604	Sleeve, Hose Retain
11	1	182627	185277	182649	182907	Holder, Hose; Pneumatic
12	Ft	682021	682781	682781	680541	Hose, Pneumatic; Exhaust
13	Ft	689000	689100	689100	689500	Hose, Pneumatic; Inlet
14	1	*259601	*259601	*259601	*259601	Clamp, Center Punch; 2-3/4"; Steel
15	1	368070	368064	368064	368059	Barb, Inner Hose; Pneumatic
16	1	*892635	*892635	*892635	*892635	O-Ring, Buna-N; 70 Dur; Hose Barb
17	1	368073	368063	368063	368049	End Cap, Outer Hose
18	1	183920	183920	183920	183920	Assy, Variable Control; Pneumatic

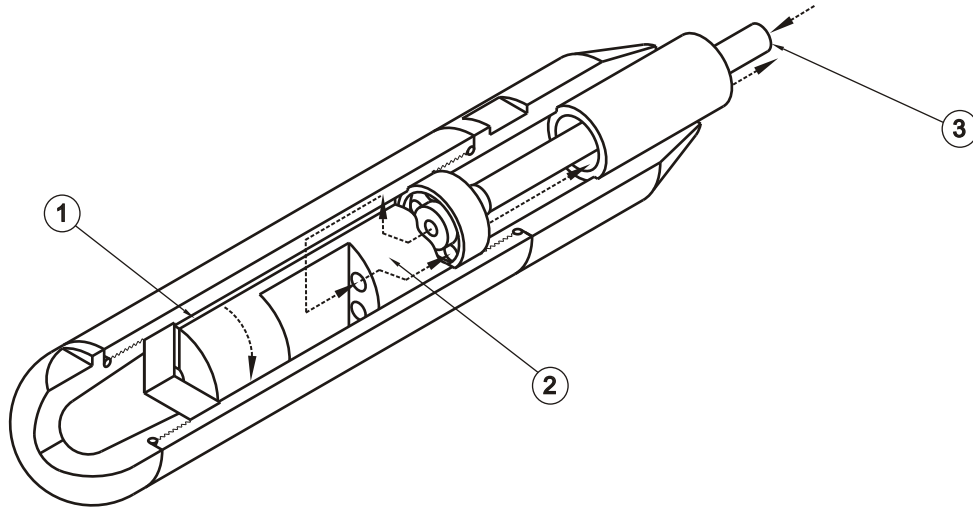
OPTIONAL PARTS LIST

Qty	BD35	BD55	BD65	BD75	Description
1	183568	183571	183579	183582	Tip, Rubber; Pneumatic
1	-	-	-	101479	Spring, Hose Protection; BD75
1	187917	187919	187920	187921	Maintenance Kits
1	680770	680770	680770	680770	Assy, Pneumatic Oiler
1	680765	680765	680765	680765	Assy, Pneumatic Strainer

Wyco Pneumatic Operation Information

PRINCIPLES OF OPERATION

BA 35, 55, 65 & 75 are all of similar design and construction. They feature a built-in pneumatically driven motor which has only two moving parts, the vane (1) and rotor (2). Compressed air is supplied to the vibrator through the air valve and inner hose (3). Air flows into the rotor, passes through the passage ways in the vane, back through the "air gap" on the rotor and outer holes in the rear flange. This activates the rotor and the vibrator begins to vibrate.



**THE WYCO TOOL
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