

Viber[®] AirHead

Operating Instructions

MODEL:

VAH-36

Pneumatic Motor-in-the-Head Internal Concrete Vibrator



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I. Introduction

Congratulations, you have purchased a Viber® AirHead Pneumatic Motor-in-the-Head Internal Concrete Vibrator System. When properly used, your AirHead Vibrator System will effectively consolidate concrete to remove entrapped air, producing high quality concrete that is dense, strong, durable, and impermeable. The AirHead design is a favorite with bridge and dam contractors, providing dependable and powerful vibration for these tough applications.



You may also want to consider using Viber's unique **Smart!Parts** Concrete Vibrator System. This unique, interchangeable design allows you to build the right system for every application. You simply choose from the wide range of **Viber** components including many different power options (electric, pneumatic, or gasoline), flexible drives in many lengths, and steel or rubber tipped vibrating heads or heads coated completely with polyurethane. All **Smart!Parts** components use identical fittings - that means they are 100% interchangeable. Select the components that best suit your particular application, saving you time and inventory investment.

Caution



CHECK YOUR EQUIPMENT

1. Inspect the vibrator system for damage.
Never use a damaged vibrator.
2. Have all components of the vibrator system (vanes, hose, vibrator head) received regular inspections and proper maintenance?
3. Are all vibrator system connections secure?
4. Do you have the proper air source?
Air Requirements: Air consumption will vary based on the slump of the concrete (the resistance). The AirHead air usage is 35 CFM at 100 PSIG to deliver maximum performance.
5. Is the oiler (lubricator) filled with light oil (air tool oil readily available) suitable for high speed pneumatic machines?
6. Is the oiler set to feed 3-5 drops of oil per minute?
7. Wear hearing protection.

CHECK YOUR FORMS

They need to be well made to withstand the strains of vibration.

1. Use screws instead of nails (nails will back out with vibration).
2. Forms need to be well braced to prevent bulging.
3. Joints need to be closely fit to prevent leaking.
4. Monitor forms during placement of concrete. Tighten as needed.

Warning

Do not use combustible gases to drive this vibrator.

Wear hearing protection if sound levels exceed 85 dBA.

II. Air Requirements

The AirHead air usage is 35 CFM at 100 p.s.i. to deliver maximum performance.



III. Operation

1. When the air is turned on the vibrator will start. If the vibrator does not start, turn off the air and tap the Vibrator Head against the ground (please don't tap it against a hard surface like concrete!) to move the rotor into start position. Turn air back on.

2. Do not exceed 110 p.s.i. operating pressure.

3. Avoid sharp bends in the air hose.

IV. Operating in the Concrete

Follow the guidelines below when you use your **Viber AirHead** Pneumatic Motor-in-the-Head Internal Concrete Vibrator for consolidating concrete:

4. Place the concrete in layers no deeper than the length of the vibrator head plus 4-6". Layers should not exceed 18-20", otherwise the weight of the concrete will prevent the entrapped air from escaping.

5. Keep the vibrator head at least 3-4" from the forms. It can damage the forms causing surface defects in the concrete.

6. Do not allow the vibrator head to touch reinforcements, such as rebar. Vibration can break the bond between the reinforcement and preceding layers of stiffened concrete.

7. Let the vibrator head penetrate to the bottom of the layer as quickly as possible under its own weight. Do not **force** the Head into the pour.

8. Keep the vibrator head vertical to minimize voids and enhance the release of entrapped air. For shallow flat slabs, lay the vibrator head horizontally and drag it through the concrete.

9. Withdraw the vibrator head slowly. Be sure concrete fills in behind leaving no hole. Do not attempt to "stir" the concrete.

10. Use repeated placements of the vibrator in a systematic pattern to be sure the entire surface has been vibrated. The area of action can be observed by noting how far from the vibrator head bubbles appear on the surface. Placements of the head should insure overlapping of the areas of action.

11. When compacting concrete placed on a previously compacted layer, push the vibrator 4-6" into the lower layer. Move the vibrator up & down for 5-15 seconds to "knit" the two layers together.

12. Avoid placing the concrete in "heaps". If it is necessary to flatten a heap, insert the vibrator head around the perimeter of the heap using as many placements as necessary.

13. Consolidation is complete when no new bubbles come to the top, a glistening layer of mortar covers the concrete surface, and the "whine" of the motor indicates that the vibrator speed has leveled off.

14. Clean all external vibrator surfaces immediately following each use.



V. Performance Data

PERFORMANCE DATA FOR VIBER® AIRHEAD									
Part #	Model #	Size Dia.	Head Length	Total Length	Total Weight	Unbalance	Air Consumption	Speed	Force
		IN	IN	IN	LBS	LB-IN	CFM	RPM	LBS
916036	VAH-36	2 -1/4	13	145	20	.183	35	18,000	1684
The speed provided is an approximation of the head speed in concrete for the AirHead vibrator. The actual speed will vary depending on temperature, consistency of the concrete, the vibrator's condition, the hours on the vane, clean lubrication, etc...									

VI. Troubleshooting

Troubleshooting Guide		
Unit will not start	Rotor out of start position	Tap unit lightly on the ground (not concrete) to move rotor into start position
	No air supply	Check air supply
	Clogged air filter	Clean filter
	Vane or other parts worn out	Replace or rebuild unit
Unit runs slowly	Low air pressure	Check air supply and increase pressure
	Clogged air filter	Clean filter
	Contaminants in vibrator	Disassemble and clean vibrator Install air filter
	Lack of lubricant	Fill or repair oiler
	Too much lubrication	Adjust oil flow of lubricator
	Worn parts	Rebuild or replace parts

VII. Maintenance

Routine inspection is recommended. Inspect for excessive tip wear and make sure there are tight connections. If clean lubricated air is used, no other maintenance is needed. If there is a loss in performance, follow the disassembly directions to perform an overhaul and repair.

Always be sure the AirHead is disconnected from the air supply before assembling or disassembling your system.

Disassembly

Caution

Disconnect air supply and vent all airlines before maintenance.

Tools Required:

- Bench Vise
- Propane Torch
- Small Pipe Wrench or Non-marring Tube Wrench
- Wire Brush
- High Strength Thread Adhesive
- Medium Non-marring Mallet



1. Heat the nose of the AirHead Vibrator to approximately 200°F - 250°F to soften the thread adhesive.

2. Clamp the nose of the vibrator by the machined slots vertically in a bench vise.



3. While still hot, use the tube wrench (or pipe wrench) to break the main body loose from the nose.



4. Once the threads start to unscrew, clamp the vibrator horizontally in the vise and remove the nose cap. The wear plate should come out with the nose cap. Keep them together.



5. The vibrator housing (the tube housing) may be upended and the rotor dropped out with the vane on a soft surface.



6. Examine the vane for grooving and signs of wear. If there is any noticeable wear on the vane or it does not fit in the groove of the rotor closely - replace the vane.



7. If a new vane does not fit closely in the rotor groove, replace the rotor. The rotor should be round, with all surfaces smooth and ungrooved.

8. Check the condition of the rolling surface of the rotor and in the tube (housing). The surface should be smooth and continuous, with no noticeable grooves or pits. A worn race section means the head is worn out and vibrator needs to be replaced.



9. The wear plate at the nose and the manifold plate toward the cap should be smooth, flat, and ungrooved. If any of these conditions exist, consider replacing the vibrator.



10. Clean the housing and parts to be reassembled thoroughly. Clean thread adhesive from threads with wire brush.

Assembly

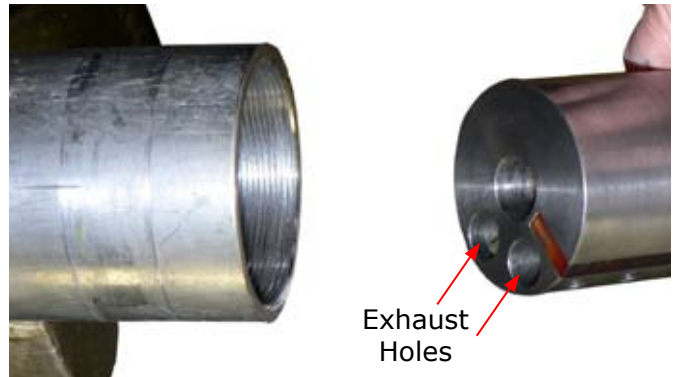
1. Coat all parts **except** threads lightly with oil prior to reassembly.



2. Install the vane in the rotor with grooves facing into the rotor. When the vane extends up out of the rotor, the grooves must face away from the exhaust holes next to the rotor groove.



3. Carefully slide the rotor back into the vibrator housing with the exhaust holes in the end facing toward the top cap or manifold plate.



4. Make sure the wear plate is in place in the nose cap and registered on the stop pin. There should be a wave or spring washer between the wear plate and the nose cap.



Spring Washer



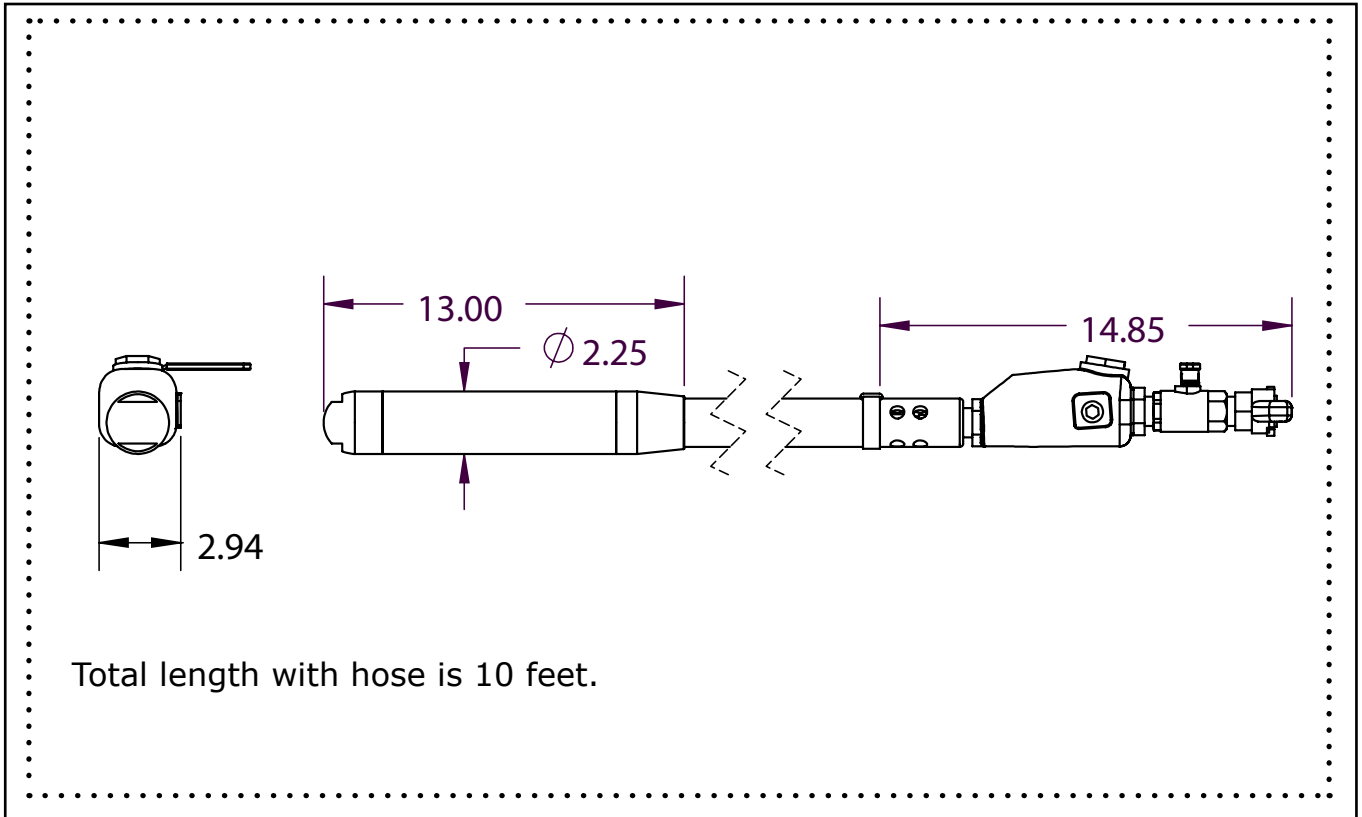
6. When properly installed, the rotor may be heard to hit the housing when the vibrator is struck smartly against the palm of the hand.



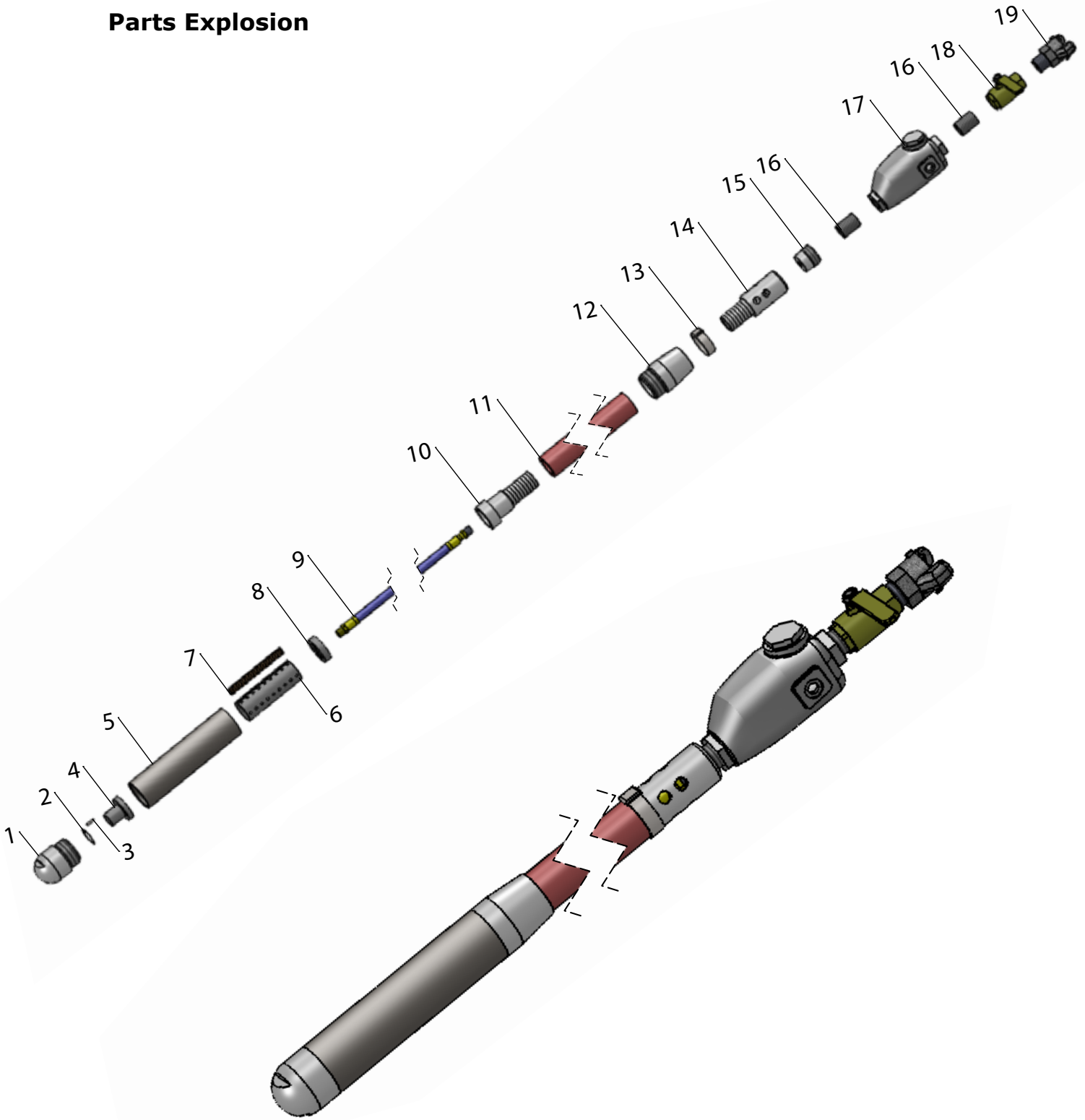
5. Carefully install the nose cap/wear plate assembly back into the vibrator housing. Screw it in about halfway. Apply thread locking adhesive to the threads (3-4 drops) and continue to tighten the nose cap until it is secure.



VIII. Dimensions



IX. AirHead VAH-36 (pn 916036) Parts Explosion





X. Parts List for AirHead

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	410636	Steel tip	1
2	338562	Wave washer 1.353"o.d. x 1.052" i.d. x .016"	1
3	413636	Wear plate	1
4	344614	Dowell pin 1/8" x 5/8"	1
5	414636	Housing	1
6	418636	Weight / rotor	1
7	419636	Vane	1
8	417636	Manifold plate	1
9	260108	Hose 3/8" i.d.	1
10	415636	Hose barb	1
11	260120	Hose 1-1/4" i.d. X 1-25/32" o.d.	1
12	416636	Top cap	1
13	260807	Clamp	1
14	411636	Hose fitting	1
15	412636	Fitting cap	1
16	294602	Nipple	2
17	271111	Lubricator 3/4"	1
18	290109	Valve 3/4"	1
19	269508	Universal twist claw coupling	1

