

Viber® Backpack

MODEL: VMG-2500BP

Operating Instructions

INTERNAL CONCRETE VIBRATOR
PORTABLE GASOLINE POWERED BACKPACK



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SAFETY OPERATION INSTRUCTIONS

Your safety and the safety of the people around you are very important. Operating the Viber® model VMG-2500BP backpack concrete vibrator system in a safe manner is the duty of every user.

Certain sections of this manual will contain such key words as DANGER, WARNING and CAUTION. When you see any of these key words in the manual, please read the information following the key word very carefully.

DANGER !

WARNING !

Not following the instructions after the signal words - **DANGER** and/or **WARNING** - may lead to death or injury of the operator or those around him.

CAUTION !

Not following the instructions after the signal word - **CAUTION** - can lead to personal injury or damage to the equipment.

Before you use the VMG-2500BP please read through the entire set of operating instructions and the Honda owner's manual provided with each new unit. Both pieces of literature provide very important information about safety.

NOISE & SOUND

Sound pressure in operators ear zone is 93.7 Average dB(A) under loading. (Approximately 25mm from operators ears.) Sound power is 100.7 + /- 3dB(A) under load. (Confidence level of 95%.)

Hearing protection must be worn.

HAND & BODY VIBRATION

Hand

Measurements were performed using a Hand-Arm filter per ISO 8041 1990 (20 sec. Average in 1/3 octave band)

Right hand acceleration is 28.9 m/s². (RMS acceleration)

Left hand acceleration is 9.8 m/s². (RMS acceleration)

Back

Measurement was performed using a tri-axial sensor. The value is summarized by all three axis and is unweighted (20 sec. Average in 1/3 octave band.)

Operator's back acceleration is 27.7 m/s² +/- 10%. (Confidence level of 95%.)

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I. Introduction

You have purchased a Viber® Gasoline Power Unit, the center of your Smart!Parts™ Internal Concrete Vibrator System. The other system components include a Viber® Never Oil™ vibrator head and a Viber® reversible flexible drive.

**Power Unit + Flexible Drive + Head =
Smart!Parts™ System**



You build the right Smart!Parts™ System for your application by choosing from the wide range of Viber® components including many different power options, different flexible drive lengths, and steel and rubber tipped vibrator heads or heads coated completely with polyurethane. These components all use identical fittings so that Viber® components are completely interchangeable. Any flexible drive can be used with any of the power units (electric, pneumatic, or gasoline) and any of the heads. See Section VI for recommendations to select the best Viber® power unit, head and flex drive for your application.

When properly used, your Smart!Parts™ System will effectively compact concrete to remove entrapped air, producing high quality concrete that is dense, strong, durable, and impermeable.

CAUTION !

Check Your Equipment

1. Inspect the vibrator system for damage.
Never use a damaged vibrator.

2. Have all components of the vibrator system received proper maintenance?

VMG Gasoline Motors: Monitor belts & bearings. Clean air filter every 25 hours and change engine oil after every 50 hours of operation. Refer to the Honda Owner's Manual for a complete maintenance schedule.

Flexible Shafts: Re-grease core after every 50 hours of use or if core rattles excessively.

Vibrator Head: Monitor bearings. Viber® heads are permanently lubricated at the factory. No further lubrication required.

3. Are all vibrator system connections tight? Apply Teflon® tape to the casing threads, before attaching the head and motor. This gives a water tight connection that will not come loose during operation.
4. Do you have the proper fuel? Use unleaded gasoline with a pump octane rating of 86 or higher.
5. Check oil level in engine.

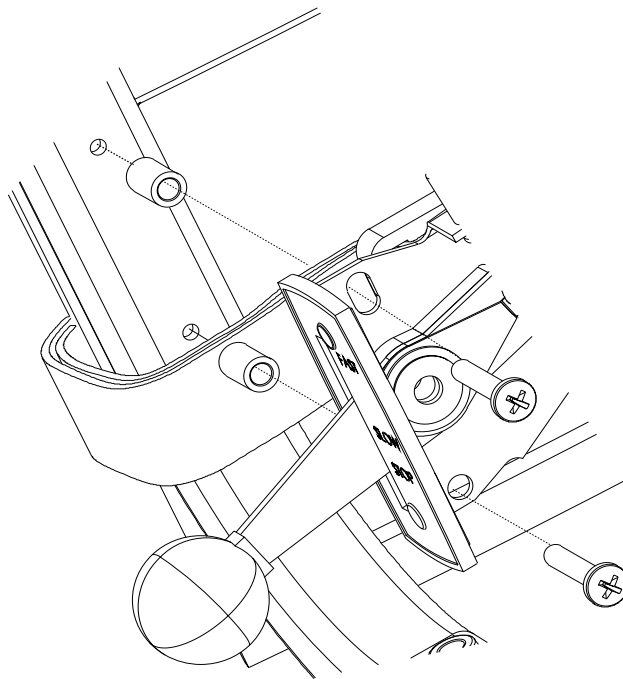
II. Assembling Internal Concrete Vibrator & Quick Disconnect

WARNING !

Always be sure the gasoline power unit's ignition switch is in the "off" position before assembling or disassembling your system.

Throttle Control Connection:

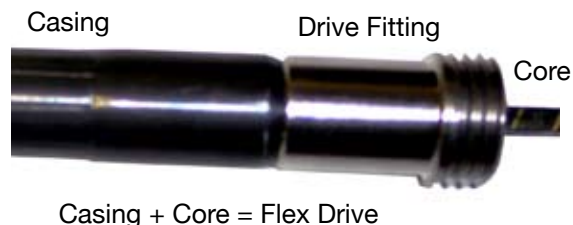
The VMG-2500BP Gasoline Power Unit comes fully assembled except for the throttle control. Mount the throttle control, using the two screws and spacers provided, to the holes located on the lower left side of the frame (when facing the backpack frame from the rear, engine side). Orient the control so the black knob points outward, FAST is at the top, and STOP is at the bottom. Place the spacers between the backpack frame and the throttle control and secure using the two screws.



All Viber® system components are interchangeable. All flexible drives (cores and casings) can be used to attach any head to any power unit (although certain combinations are not recommended). For optimum performance and wear consult your Smart!Parts™ System Guide on page 17 or the tables on page 16 for the best combination of components.

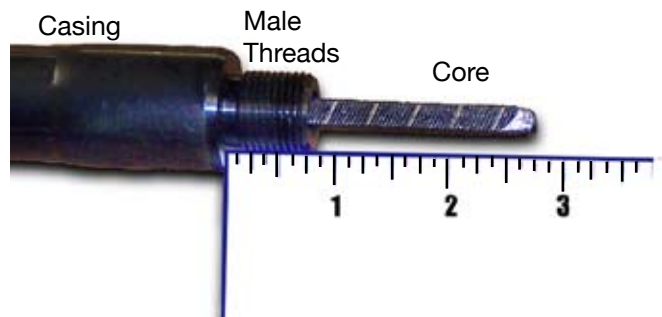
1. Always be sure the gasoline power unit's ignition switch is in the "off" position before assembling or disassembling your system.

2. **Apply two layers of Teflon® tape to the casing threads** before attaching the *drive fitting* to the flexible drive (flex drives are available with drive fittings already attached). Turn fitting clockwise to tighten. Use a small pipe wrench or channel locks to be sure the connection is tight. (If you do not have an assembled flex drive, the core must be lubricated before installing it in the casing. Run the core through a handful of Viber® Core Grease as it is inserted into the casing. Attach the end of the casing, where the core was inserted, to the quick disconnect drive fitting. As the system runs the grease will migrate from the motor end to the head end of the flexible drive.)



3. Place the flexible drive with installed quick disconnect drive fitting up to the quick disconnect on the engine drive. Be sure the core engages in the engine drive. Turn the large hand nut counter clockwise until tight (hand nut has left hand threads to insure it will remain tight while operating the system.) It may require a **light** mallet tap to the ears to tighten.

4. Before attaching the head, check the length of core extending from the head end of the flexible drive.



If this length is greater than 2-3/4", twist the core while pushing it into the casing to make sure it is fully seated in the motor. If the exposed core is greater than 2-3/4" when it is fully seated in the motor it may bind and cause damage to the core, casing, or head. Do not use the system. Contact your dealer or Global Manufacturing at 1-800-551-3569.

5. Attach the head to the flexible drive. Be sure the core engages the drive coupling in the head. **Apply two layers of Teflon® tape to the casing threads** before screwing the head in a clockwise direction. Use a crescent wrench on the machined flats on the head and channel locks or a small pipe wrench on the casing fitting to make sure the connection is tight.

CAUTION !

Do NOT leave out the Teflon® tape! It is required to provide a watertight seal between the head and casing. If Teflon® tape or a similar sealant is not used the Head can be damaged by water that penetrates this connection and the Head may unscrew during operation and fall out into the pour.

Also apply Teflon® tape to the male threads of the casing before attaching to the motor (see step 2 on this page).

6. **Use only fresh unleaded gasoline** with a pump octane rating of 86 or higher. Do not over fill the tank.

WARNING !

Always wear ear & eye protection, gloves, & heavy boots when operating the backpack system.

III. Operation

WARNING !

Improperly maintaining the engine, or failing to correct a problem before operation, could cause malfunction in which you could be seriously injured.

Always perform an inspection and correct any problems before starting the engine.

Refer to the Honda Engine's owner's manual supplied with your VMG-2500BP for engine maintenance schedules and detailed operating instructions.

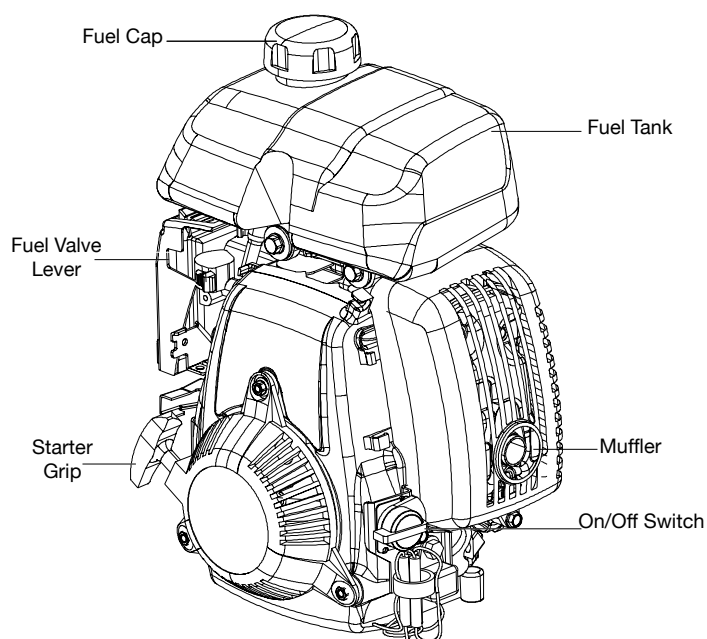
DANGER !

This unit creates carbon monoxide gas when operating. Carbon Monoxide is a colorless, odorless gas, which can cause injury or death.

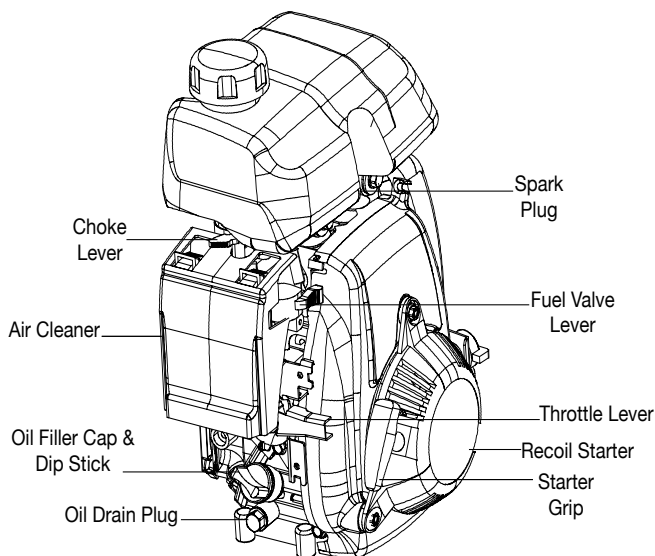
Use only outdoors or where fresh air is constantly being introduced into the environment.

To start the VMG-2500BP Gasoline Power Unit:

1. Remove any accumulated dirt or debris, especially from around the muffler and recoil starter.
2. Check that all shields and covers are in place and all the nuts, bolts, and screws are tight.
3. Inspect the throttle, engine kill switch, and swivel joint, where the engine is attached to the frame, to make sure they are in working order.
4. Check the engine oil level. Add oil if necessary. The engine is equipped with an Oil Alert system that will stop the engine before the oil level falls below safe limits or if the engine is tilted to the point that the oil pick-up is out of the oil reservoir. To avoid the inconvenience of an unexpected shut-down, always check the engine oil before start-up.
5. Check the air filter. A dirty air filter will restrict airflow to the carburetor, reducing engine performance.



6. Be sure the tank is full with fresh clean unleaded gasoline with a pump octane rating of 86 or higher. Do not over fill the tank. See page 24 of the Honda Engine Owner's Manual.
7. Place the VMG-2500BP on an elevated surface high enough to allow the operator to put on the unit easily after starting.
8. Place the engine fuel valve lever in the ON position.
9. For a cold engine, move the choke lever to the CLOSED position. To restart a warm engine, leave the choke lever in the OPEN position.
10. Turn the red engine ignition switch to the ON position.
11. Place the throttle lever in the SLOW position.



CAUTION !

Do not start the engine with the throttle lever in the fast position. this will engage the vibrator head as soon as the engine starts. running the vibrator head in air without regularly submersing it in the concrete will overheat the bearings.

12. Hold the VMG-2500BP unit in place with one hand. Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip SLOWLY to its initial position.

13. If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.

IMPORTANT

To stop the engine at any time, simply move the throttle lever to the stop (fully down) position.

WARNING !

When putting on the backpack, lift the unit by bending your knees. Do not lift with your back - use your legs.

14. Place the VMG-2500BP unit on your back just as you would a backpack. Place your arms through the spaces between the straps and the frame. Buckle both the chest and abdominal straps. Adjust the shoulder, chest, and abdominal straps as needed.

15. You are now ready to vibrate concrete with your VMG-2500BP.

a. Use the black throttle lever on the bottom left side of the frame to regulate the vibrator speed. Keep in mind, that when consolidating concrete, faster is not always better. The best performance might be obtained with the throttle lever in a position below FULL throttle, especially when using a small diameter vibrator head (7/8"-1-1/2").

b. The VMG-2500BP is equipped with a centrifugal clutch. By moving the throttle to the SLOW position, the clutch will disengage allowing the vibrator head to stop. ***Do not leave the vibrator head running in air. Running the vibrator head in air without regularly submersing it in the concrete will overheat the bearings.*** If the head is to be held out of the concrete, move the throttle lever to the SLOW position to prolong bearing life.

c. To stop the engine at any time, simply move the throttle lever to the STOP (fully down) position.

WARNING !

The backpack system must be worn on the operator's back for it to function properly. Do not attempt to operate the vibrating head while the backpack is not being worn.

IV. Guidelines for Concrete Consolidation:

1. Do not leave the vibrator running in air. Totally submerge the vibrator head in the concrete. This cools the bearings. Running the vibrator in air without regularly submersing it in the concrete will overheat the bearings.
2. Avoid making sharp bends in the flexible shaft.
3. Make sure you can see the concrete surface. Use lighting if necessary.
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 them 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.
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 or better - use our Shallow Pour Head (see page 16). It is only 5.88" long.
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 engine noise indicates that the vibrator speed has leveled off.

14. Clean all vibrator parts immediately following each use.

CAUTION !

Do not place anything on top of the motor.

Do not stand on the backpack frame or engine.

V. Motor Maintenance

Routine monthly maintenance is recommended unless the power unit is used for multiple shifts per day or in harsh environments (heavy dust, snow, sand, etc.). Refer to the Honda Engine Owner's Manual provided with your VMG-2500BP for details on performing engine maintenance.

1. **Engine Oil (SAE10W-30, API SJ):** Check before each use. Change after the first 10 hours of use and every 50 hours thereafter. Change the oil every 25 hours in high ambient temperatures.

2. **Air Filter:** Check before each use. Clean and re oil every 25 hours or more frequently if used in dusty areas.

3. **Spark Plug:** Clean and adjust gap every 25 hours. Replace every two years.

4. **Overdrive Transmission:** Check belt tension after first 10 hours of use and during every engine oil change thereafter. See Section VII, page 10.

5. **Quick Disconnect:** Requires no lubrication and no routine maintenance. Keep threaded contact surfaces clean. To order additional quick disconnect drive fittings or for other replacement parts, contact your dealer or Global Manufacturing, Inc at 1-800-551-3569.

VI. PERFORMANCE SPECIFICATIONS

Engine: 4-cycle, 3.0 cu.in., 2.5 hp Honda Overhead Valve Engine.

Fuel: Standard Unleaded Gasoline, 86 octane or higher. 0.32 US gal. Approximately 3 hours of use per tank of gasoline.

Oil: SAE 10W-30, API SJ, 0.26 US qt.

Head Size: Will drive all size internal concrete vibrator heads up to 2-1/2" in diameter with any flexible drive length up to 35'.

Speed: Overdrive transmission provides drive speed of 12,000-13,000 rpm with any size vibrator head.

Other Features: The VMG-2500BP also provides the following features:

Centrifugal Clutch allows the operator to stop the vibration simply by adjusting the throttle lever to the SLOW position. This prolongs vibrator head bearing life by preventing excess heat build up when the head is not submersed in the concrete.

Multi-Function Throttle Control allows the operator to obtain the best speed of vibrator for the size of head and the type of concrete being worked. The throttle also provides an **EMERGENCY stop feature**. Simply push the throttle lever to STOP (down position) to turn the engine off.

Standard **Quick Disconnect** makes it simple to remove or attach the flexible drive without tools.

Engine swivels 180° allowing the flexible drive to more easily push back behind the operator as it is pulled from the concrete. Motor remains "tight" so it does not move excessively as the operator changes positions.

WARNING !

IMPORTANT NOTICE ON THE HONDA MOTOR OIL SENSOR

The Viber® VMG-2500BP portable gasoline powered backpack power unit is equipped with a Honda GXH50 overhead valve, 4-cycle, 2.5 horsepower engine. Because it is an overhead valve engine, the GXH50 produces higher horsepower and higher speeds, but weighs 40% less than conventional valve-in-block small engines. This makes this the only engine currently on the market that is light enough to be carried and powerful enough to drive internal vibrator heads over 1-3/4" in diameter at adequate speeds for concrete consolidation.

This design, however, requires a special lubrication system to pump oil from the reservoir in the lower case to the valves at the top of the engine. To achieve this there must be an oil pickup in the oil pool. If the overhead valves fail to receive lubrication, even for a short time, major damage can result. Honda provides a built in oil sensor to automatically shut the engine off if it detects a low oil level.

This low oil situation can occur two ways:

1. The oil level in the engine is too low. See page 26 of the Honda Owner's Manual for instructions on adding oil.
2. **The engine is tipped to such an extent that the oil pool moves away from the low oil sensor.** Just because the oil moves away from the sensor does not mean the motor is being starved of oil but the chances are greatly increased.

There is no guarantee the motor gets sufficient oil when tipped even if the sensor is not tripped. The sensor is a good warning device that alerts the operator that the motor might be starved for oil, which can prevent severe damage to the engine.

Disconnecting the oil sensor so that the motor can be tipped greatly without tripping the sensor can result in major engine damage and voids the manufacturer's warranty. Honda states that the engine can be tilted up to 20 degrees in any direction without difficulty or adverse effect. We recommend that the engine be operated within those limits.

STORAGE OF BACKPACK

CAUTION !

Always store the unit with its engine upright and the base on a flat level surface.

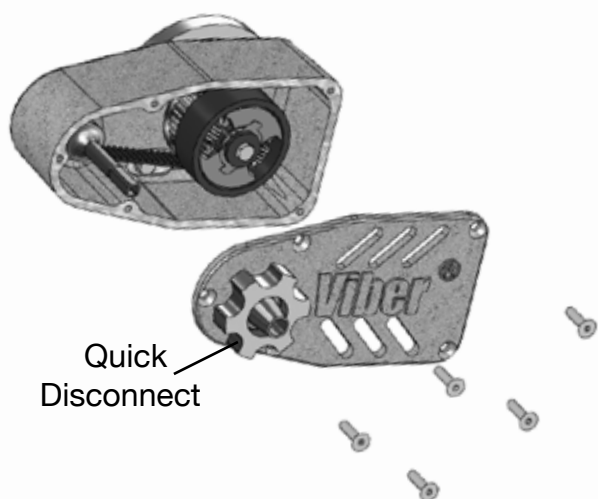
Do not store the unit on its side. Oil or gasoline may leak as a result. Leaking oil or gasoline is toxic and a fire hazard.

For long-term storage we recommend the gasoline tank be drained and the engine operated until the remaining fuel is consumed.

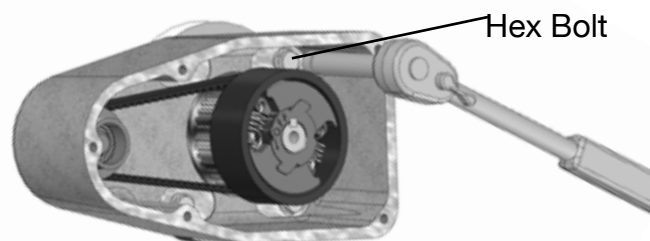
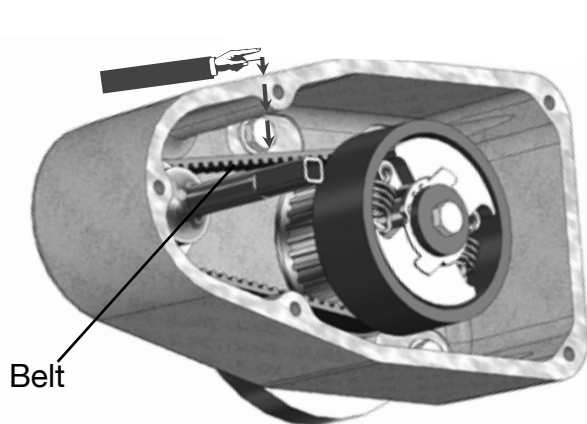
VII. BELT TENSION MAINTENANCE

Checking the Overdrive Transmission Belt Tension. See pages 14 & 15 for part numbers and description.

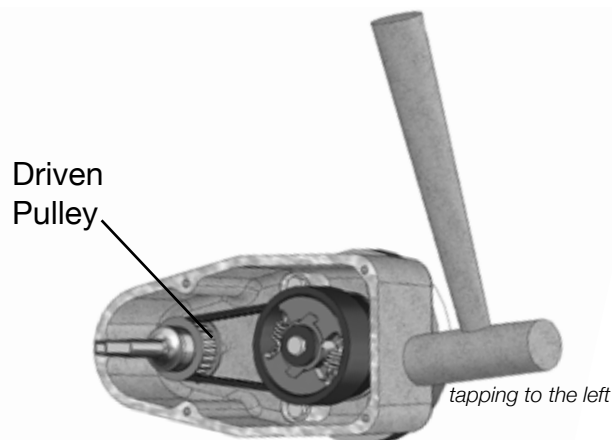
1. Remove the five 1/4" - 20 x 1" flat head screws securing the transmission cover to the transmission housing using a 5/32" hex key. Remove the cover. The Quick Disconnect remains connected to the cover.



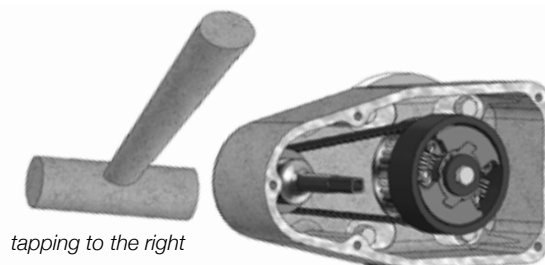
2. Test the belt tension by pressing down on the belt midway between the two pulleys. It should deflect about 1/2".



3. If the belt needs to be adjusted, **slightly loosen** the four hex bolts in the back of the transmission housing using a 7/16" socket and extension.



4. Using a rubber mallet, gently tap the housing to adjust the belt. Tap the housing to the left to tighten the belt. (You must tap on the right side of the housing to make it move left. The housing moves on the mounting bolts which are slotted.)



Tap the housing on the left side to move it right. This will loosen the belt.

5. Tighten the four hex bolts to secure the transmission housing.

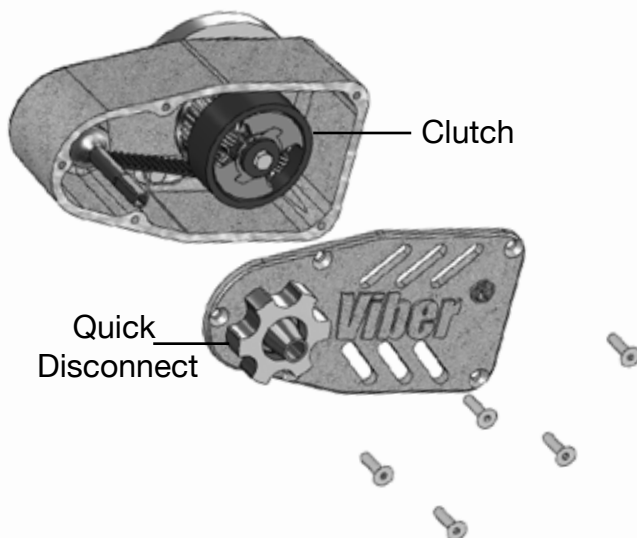
6. Re-install the transmission cover using the five flat head screws.

VIII. Replacing the Clutch Assembly pn 490760

1. Remove the five 1/4" - 20 x 1" screws on the cover with 5/32" hex key.

2. Removal of the cover exposes the clutch on the motor shaft.

Hex Key



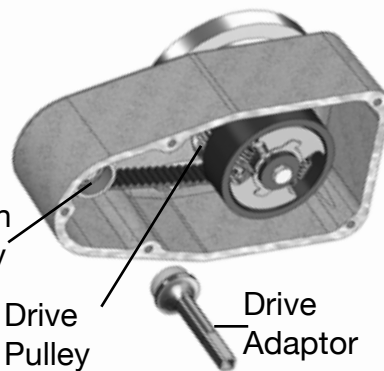
3. Using a 1/4" square drive on an impact wrench, remove the drive adaptor from the small driven pulley (right hand thread).



Driven
Pulley

Drive
Pulley

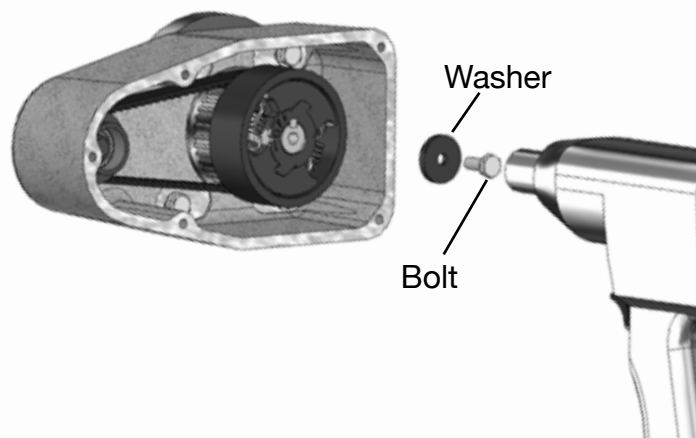
Drive
Adaptor



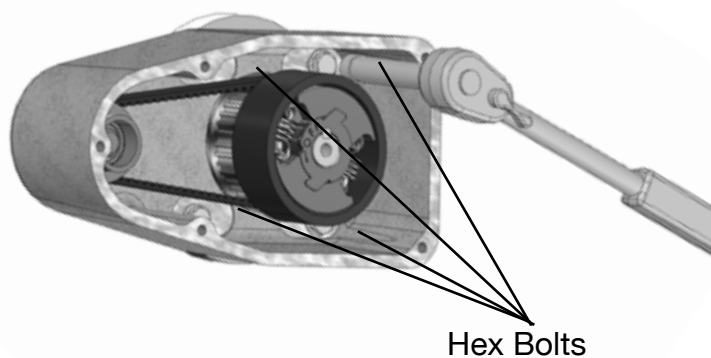
3a. The drive adaptor which connects to the flex drive is now removed.

4. Using an impact wrench and 7/16" socket, remove the 1/4" - 28 x 1 1/2" clutch pack retaining bolt. Threads are right hand.

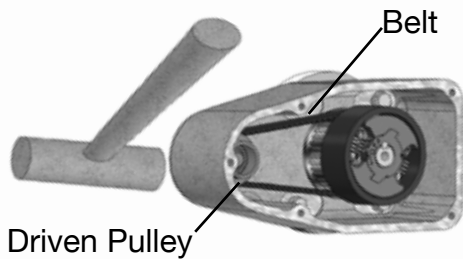
5. Remove the bolt and clutch retaining washer.



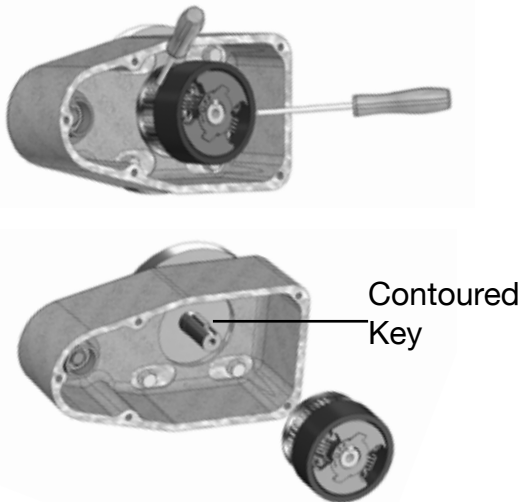
6. Using a 7/16" socket and extension, **loosen** the four hex bolts (also used to adjust belt tension) located in the housing near the clutch pack.



7. Tap on left end of housing to loosen tension on the belt. Lift the belt over the end of the driven pulley and out of the housing.

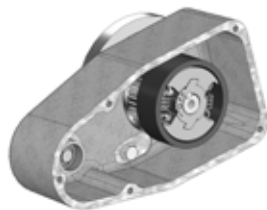


8. Using small ply bars pry the clutch pack from the motor shaft. Note the *contoured motor shaft key* and how it is oriented in the motor shaft.

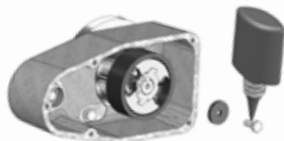


9. Align contoured key in the end (clutch side) of the motor shaft. (It will slide back as you put clutch back on shaft.)

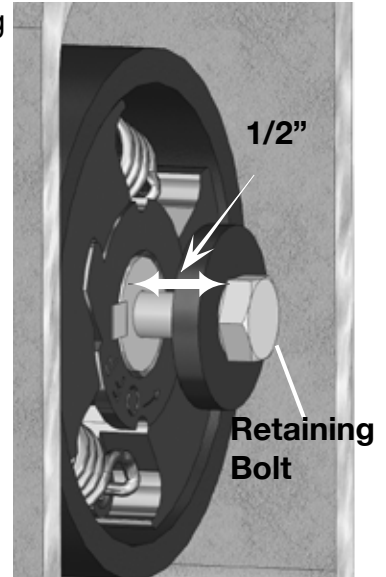
10. Slide new clutch pack onto the motor shaft and contoured key until it seats on motor shaft.



11. Clean thread on 1/4" - 28 x 1 1/2" clutch retaining bolt and apply high strength thread adhesive.

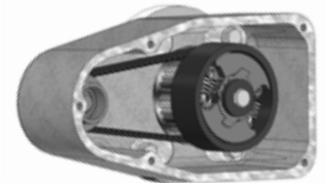


12. When the retaining bolt is placed into the clutch pack and against the motor shaft, at least 1/2" should protrude from the clutch pack if it is properly seated on the motor shaft.



13. To reinstall clutch retaining bolt and washer in clutch shaft hold the motor shaft securely. To do this remove the three 5/16" nuts and remove the recoil starter from the engine. Hold the starter end of the motor shaft steady with a 14 mm socket wrench. Tighten the clutch retaining bolt with a torque wrench to 15-16 ft.lb. Use the 5/16" nuts to reinstall the recoil starter.

14. Reinstall the belt on both pulleys.



15. Re-tension the belt (see page 10) and tighten the four hex bolts to secure the transmission housing.

16. Reinstall the drive adaptor on driven pulley.



17. Reinstall the cover and tighten screws securely.



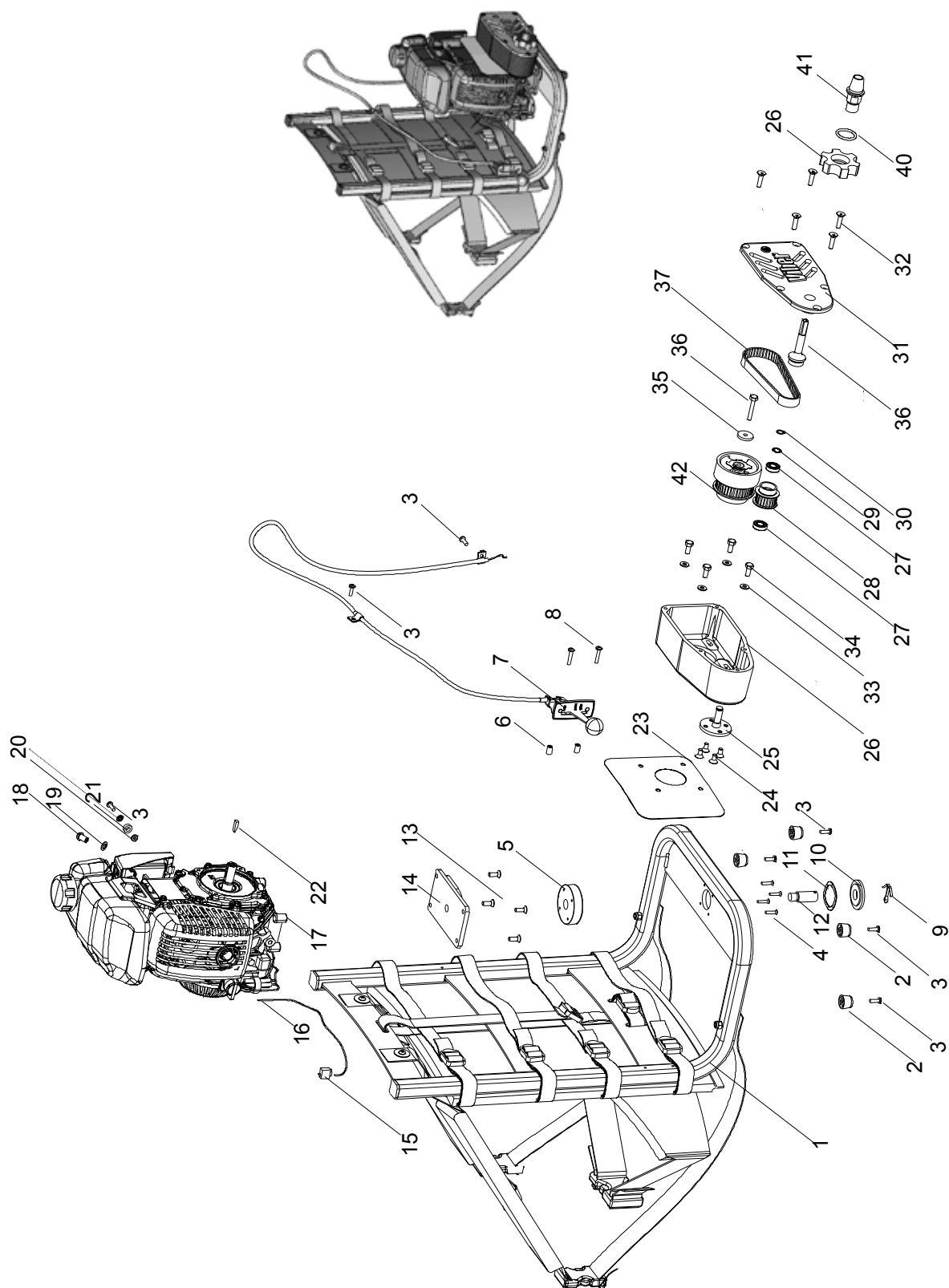
IX. VMG-2500BP Parts List

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
	490700	FRAME ASSEMBLY	1
1	490703	FRAME AND STRAP	1
2	490314	BUMPER	4
3	333370	SCREW PHP#10 - 24 x 5/8" TF	7
4	333160	SCREW FHT 8 -16 - 3/4" TF	4
5	295475	BUSHING	1
6	387093	SPACER .312" DIA X .5"	2
7	490751	THROTTLE CONTROL	1
8	333360	SCREW PHP #10 - 24 x 1" ST	2
9	344530	COTTER PIN SS 5/32" x 1 - 1/2"	1
10	295471	WASHER	1
11	338514	WAVE WASHER 1.404" x 1.819" x .02"	1
12	490712	MOUNT STUD	1
13	337772	SCREW FSH M6 x 1 - 18	4
14	490711	MOUNT BASE	1
15	450254	TERMINAL WIRE TAP CONNECTOR	1
16	450298	WIRE	1
	4907330	ENGINE	1
17	490733	ENGINE	1
18	49073302	BUSHING	1
19	358516	EXTERNAL SELF LOCKING RING 5/16"	1
20	337780	INSULATED NYLON WASHER #10	2
21	490752	GROUND BUTTON	1
22	345814	CONTOURED KEY	1
23	490782	SHIELD	1
	146700	TRANSMISSION ASSEMBLY	1
24	334904	SCREW FSH 1/4" - 28 - 1/2"	4
25	490787	AXLE	1
26	146701	HOUSING	1
27	380690	BEARING	2
28	490786	DRIVEN PULLEY	1
29	338507	WAVE WASHER .400" x .575" x .045" x .008"	1
30	349184	RETAINING RING #5160 - 39	1
31	118701	COVER	1
32	334910	SCREW FSH 1/4" - 20 x 1"	5
33	338203	FLAT WASHER 3/16"	4
34	331006	HEX BOLT 1/4" - 28 x 5/8" GR5	4
35	490763	WASHER	1
36	332015	HEX BOLT 1/4" - 28NF 1-1/2" GR8	1
37	490771	DRIVE BELT	1
38	490781	DRIVE SHAFT ADAPTOR	1
40	385216	O-RING BUNA N #568-216	1
41	414912	FITTING	1
42	490760	CLUTCH ASSEMBLY (see pg 15 for details)	1

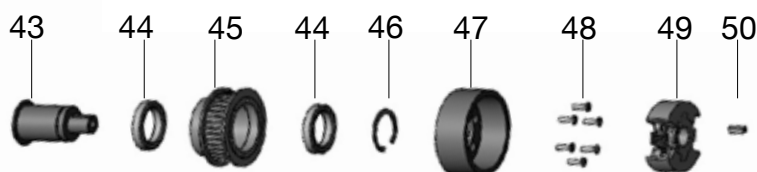
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**Viber® Backpack
VMG-2500BP**

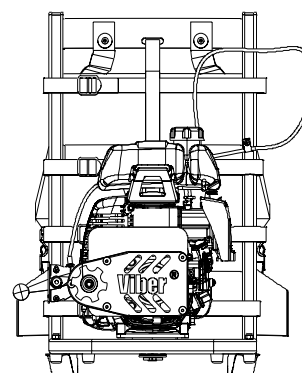
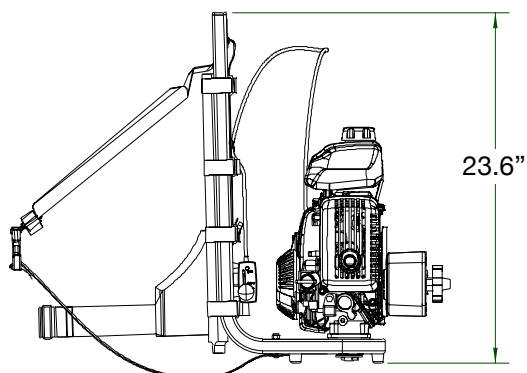
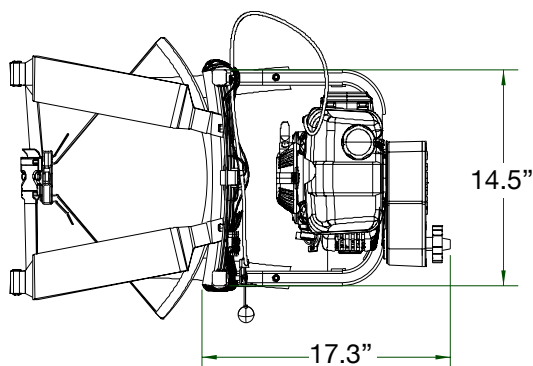


X. Clutch Assembly Parts Breakdown



	PART NO.	DESCRIPTION	QTY
42	490760	CLUTCH ASSEMBLY	1
43	207001	SHAFT	1
44	380686	BEARING	2
45	490785	DRIVE PULLEY	1
46	349180	RETAINING RING 5108-118	1
47	490762	CLUTCH DRUM	1
48	333170	SCREW FHP #08-32 x 1/2"	6
49	490761	CLUTCH ROTOR	1
50	345803	KEY 3/16" SQ x 1/2"	1

XI. Dimensions



XII. Performance Data - Heads & Engine

PERFORMANCE DATA FOR VIBER® VMG-2500BP and INTERCHANGEABLE HEADS									
								VMG-2500BP	
Part #	Model #	Size Dia.	Head Length	Weight	Unbalance	Amplitude Peak-to-Peak	Radius of Action	Speed	Force
		IN	IN	LBS	LB-IN	IN	IN	RPM	LBS
STANDARD HEADS - STEEL TIP OR RUBBER TIP									
950014	VH14	7/8	11.95	1.3	.030	.046	4.6	12,670	137
950016	VH16	1	12.13	2.0	.030	.030	5.0	12,670	137
950020	VH20	1-1/4	12.18	2.9	.094	.065	7.5	12,670	429
950024	VH24	1-1/2	12.03	4.1	.170	.083	9.5	12,670	775
950028	VH28	1-3/4	12.04	5.6	.210	.075	11.0	12,670	957
950034	VH34	2-1/8	12.29	8.8	.396	.090	14.0	12,670	1,805
950040	VH40	2-1/2	13.52	13.9	.600	.086	18.0	11,750	2,353
POLLY HEADS									
950328	VH28-PH	1-3/4	13.25	4.7	.170	.07	10.0	12,670	775
950332	VH32-PH	2	13.40	6.4	.210	.06	12.0	12,670	957
SPECIAL PURPOSE HEADS									
950014	VH14-ST	7/8	11.95	1.3	.030	.046	4.6	12,670	137
951014	VH14-LF	7/8	9.95	1.1	.017	.031	5.6	12,670	78
952034	VH34-SP	2-1/8	5.88	3.3	.147	.089	14.0	12,670	670
The speed provided is an approximation of the head speed in concrete with the VMG-2500BP Gasoline Engine Power Unit at maximum throttle. Unit operates at a maximum of 12,670 rpm. The actual speed will vary depending on temperature, consistency of the concrete (the slump), the power unit's condition, the hours on the bearings, etc...									

VIBER® VMG-2500BP				
PART #	DISPLACEMENT	HORSEPOWER	MAX HEAD SIZE	NET WT LBS
913250	3 CU. IN.	2.5 HP	2-1/2"	26.8
Quick Disconnect fitting is built into the design. To attach the Flex Drive to the power unit, order a Flex Drive with a 'Drive Fitting' or order the Drive Fitting separately.				

Viber® Never Oil™ Heads

No Routine Maintenance! The unique design of Viber Never Oil™ heads feature permanently lubricated bearings. Viber heads quickly reach top speed at maximum force output with no warm-up period.

Steel-tipped, Rubber-tipped and our new **Polyurethane-coated Heads** are completely interchangeable with all Flex Drives.

The **Shallow Pour head** is only 6" long. A great choice for consolidating low-slump concrete slabs, decks, floors, precast panels, and other shallow pours.

The **Low Force output head** eliminates concrete from exploding out of the forms – especially great for ICF forms. Uses the 7/8" small diameter drive.

VIBER® CORES & CASINGS						
DRIVE LENGTH FT	CORES		CASINGS 1-1/16" DIAMETER		CASINGS 7/8" DIAMETER	
	PART #	NET WT LBS	PART #	NET WT LBS	PART #	NET WT LBS
1	935001	0.3	932001	1.8	932201	0.9
3	935003	0.6	932003	3.2	932203	1.8
5	935005	1.0	932005	4.7	932205	2.8
7	935007	1.4	932007	6.3	932207	3.8
10	935010	1.9	932010	8.5	932210	5.3
14	935014	2.8	932014	11.8	932214	7.3
21	935021	4.0	932021	17.2	932221	10.7

VIBER® SMART!PARTS™ SYSTEM SELECTION GUIDE

1		2	3		4	5								
Application	Slump	Space	Head Diameter	Radius of Action	Power Units	Flexible Drive Length-Feet								
						1'	3'	5'	7'	10'	14'	21'	28'	35'
Block Walls & Small Diameter Fills: Plastic and flowing concrete for very thin members & walls & confined places.	> 3"	2.5" x 2.5"	7/8" VH 14	4.6"	VME-1500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Thinnest Prestressed Sections: Plastic and flowing concrete for very thin members & walls & confined places.	>3"	3" x 3"	1" VH 16	5.0"	VME-1500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Thin Prestressed Sections: Plastic concrete in thin walls, columns, beams, precast piles, thin slabs, and along construction joints.	3 - 5"	3.25" x 3.25"	1-1/4" VH 20	7.0"	VME-1500	X	X	X	X	X	X	X	X	X
					VME-2500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Thin Wall Sections & General Use: Plastic concrete in thin walls, columns, beams, precast piles, thin slabs, and along construction joints.	3 - 5"	3.5" x 3.5"	1-1/2" VH 24	9.5"	VME-1500	X	X	X	X	X	X	X	Not Recommended	
			1-3/4" VH 28-PH Polly Head	10"	VME-2500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	Not Recommended	
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
General Use: Plastic & stiff plastic concrete in general construction such as walls, columns, beams, pre-stressed piles, and heavy slabs.	2 - 4"	3.75" x 3.75"	1-3/4" VH 28	11"	VME-1500	X	X	X	X	X	X	X	Not Recommended	
			2" VH 32-PH Polly Head	12"	VME-2500	X	X	X	X	X	X	X	X	X
					VME-3000	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	Not Recommended	
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Stiff Low-Slump Concrete: Stiff plastic concrete in general construction such as walls, columns, beams, pre-stressed piles, and heavy slabs.	1 - 3"	4" x 4"	2-1/8" VH 34	14"	VME-2500	X	X	X	X	X	X	X	Not Recommended	
					VME-3000	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Stiffest Low-Slump Concrete: Mass and structural concrete deposited in relatively open forms.	< 2"	5" x 5"	2-1/2" VH 40	18"	VME-2500	X	X	X	X	X	X	X	Not Recommended	
					VME-3000	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
Shallow Pours: Plastic & stiff plastic concrete in slabs and other shallow pours less than 12" thick.	2-4"	4" x 4"	2-1/8" VH 34-SP Shallow Pour	14"	VME-1500	X	X	X	X	X	X	X	Not Recommended	
					VME-2500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	Not Recommended	
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X
ICF Applications: Plastic and flowing concrete for very thin members & walls & confined places where insulated concrete forms are used.	> 4"	2.5" x 2.5"	7/8" VH 14-LF Low Force	5.6"	VME-1500	X	X	X	X	X	X	X	X	X
					VMP Turbo	X	X	X	X	X	X	X	X	X
					VMG-1750	7' or longer recommended			X	X	X	X	X	X
					VMG-2500BP	7' or longer recommended			X	X	X	X	X	X

1. Find description in column 1 that matches the desired application.
2. Use column 2 to adjust for any size restrictions due to reinforcements, such as rebar, or other limiting structures.
3. Column 3 gives the diameter of the vibrator head needed.
4. Select the power unit desired from column 4.
5. Find the core and casing length desired in section 5.