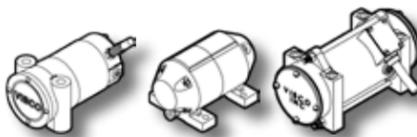




# VIBCO INSTRUCTION MANUAL

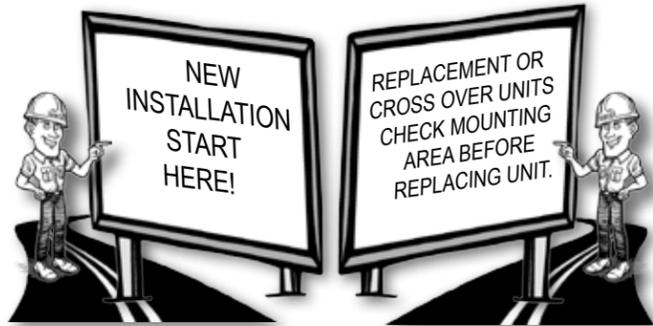


## DC 12 & 24 Volt DC Powered Vibrators

**WARNING:** Failure to read and follow these installation instructions and safety precautions could result in personal injury, equipment damage, shortened service life or unsatisfactory equipment performance. All information in this document is vital to the proper installation and operation of the equipment. It is important that all personnel who will be coming in contact with this product thoroughly read and understand this manual.

### 1 START

**THANK YOU FOR CHOOSING A VIBCO VIBRATOR!**



### 2 MOUNTING INSTRUCTIONS CHECKLIST

- Determine vibrator placement on equipment.
- Determine length of channel iron and style of mounting plate.
- STITCH** welding mounting plate to channel iron.
- STITCH** weld channel iron to bin.
- Attach vibrator to mounting plate. Check the mounting plate for warping & shim if necessary. **DO NOT OVER TIGHTEN THE BOLTS.**
- Install safety chain or cable.
- Connect wiring for vibrator using the NEC Standards.
- Take a voltage reading while vibrator is running.
- Take an amperage reading while vibrator is running.
- FILL OUT WARRANTY CARD AND MAIL TO VIBCO!!!!**

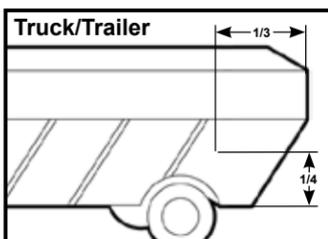
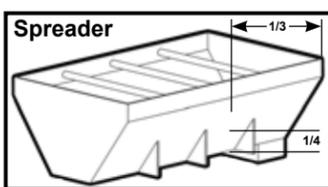
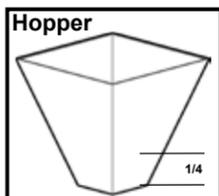


**ADDITIONAL DETAILS AVAILABLE ONLINE AT [www.vibco.com](http://www.vibco.com)**

### 3 VIBRATOR PLACEMENT

**For hopper mounts:** mount vibrator 1/4 of the distance from the discharge opening to the top of the sloped portion of the bin or hopper.

**For truck/spreader mounts:** mount vibrator 1/4 of the distance from the discharge and 1/3 of the distance from the back of the truck, spreader or trailer.



**FOR ALTERNATE MOUNTS** refer to full detail instruction manual online at [www.vibco.com](http://www.vibco.com) or call 800-633-0032

### 4 PLATES & CHANNEL SELECTION

| VIBRATOR FORCE in LBS | MNTNG PLATE THICKNESS | CHANNEL IRON SIZE            | FACTOR A |
|-----------------------|-----------------------|------------------------------|----------|
| 0-100                 | 1/4"                  | 2" x 1 lbs                   | 1        |
| 101 - 500             | 1/4" - 3/8"           | 3" x 4.1 lbs<br>3" x 5 lbs   | 2        |
| 501- 1200             | 1/2"                  | 4" x 5.4 lbs<br>4" x 7.5 lbs | 3        |

| BIN WALL THICKNESS    | FACTOR B |
|-----------------------|----------|
| 1/8" (10 ga.) or less | 6        |
| 1/8" - 1/4"           | 5        |
| 1/4" - 3/8"           | 4        |
| 3/8" - 1/2"           | 3        |
| 1/2" & up             | 2        |

| FACTOR A + B | USE CH. IRON LENGTH  |
|--------------|----------------------|
| 9            | 5 - 7 FT. (70 - 80%) |
| 8            | 4 - 6 FT. (60 - 70%) |
| 7            | 3 - 5 FT. (50 - 60%) |
| 6            | 2 - 4 FT. (50 - 60%) |
| 5            | 1 - 2 FT. (50 - 60%) |
| 3 & 4        | N/A                  |

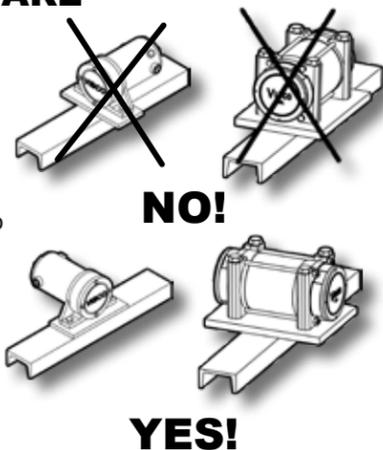
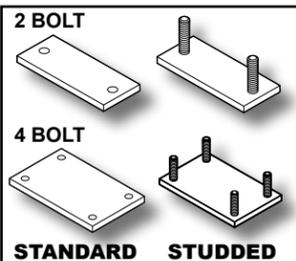
#### NOTE:

1. Longer channel iron will not affect vibrator performance, but total channel length should not exceed length of sloping wall.
2. Percentages shown indicate % of bin wall height your channel iron should be for shorter bins.
3. To match your vibrator on chart above, model number suffixes generally correspond to pounds of force generated. For any questions, consult VIBCO.

### 5 MOUNTING HARDWARE

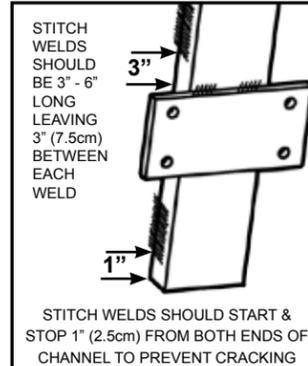
**A MOUNTING PLATE MUST BE USED** to ensure proper stability for the vibrator.

Always start & stop welds 1 in. from ends to prevent heat concentration. Then weld 2 to 3 inches, skip 1 to 2 inches and repeat until the plate is securely mounted.

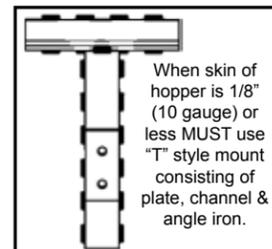


**OVERALL LENGTH OF VIBRATORY UNIT SHOULD ALWAYS BE PERPENDICULAR TO LENGTH OF CHANNEL, OTHERWISE IT MAY CAUSE FLEXING & THE VIBRATOR WILL OVERLOAD & BURN OUT.**

### 6 STITCH WELD MOUNTING



**DO NOT MOUNT VIBRATOR DIRECTLY TO SURFACE OF BIN !!!**  
Always use mounting plate & channel iron

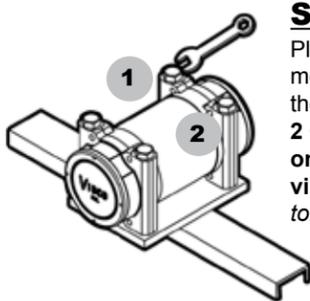


BE SURE YOU HAVE SELECTED THE PROPER LENGTH OF CHANNEL USING THE TABLES ABOVE. IMPROPER MOUNTING CAN RESULT IN FAILURE OF UNIT OR DAMAGE TO EQUIPMENT.

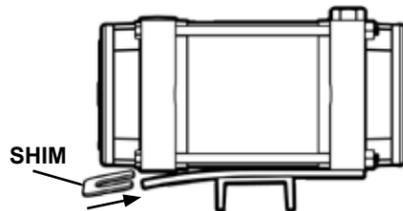
**800-633-0032 for Mounting Plates & Brackets, Spare & Replacement Parts and 24/7 Technical Support**

### 7 BOLTING PROCEDURE

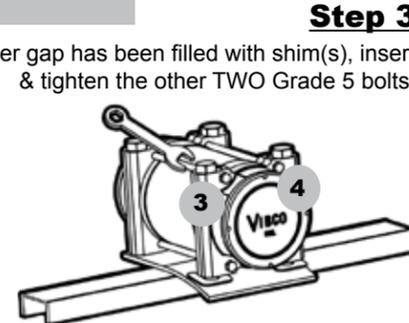
**NOTE:** Shimming the feet is necessary to avoid strain on the shaft & bearings that can cause high amperage draw & burn out the vibrator.



**Step 1**  
Place vibrator on mounting plate, then insert & tighten **2 Grade 5 bolts on same end of vibrator.** See proper torque values right.



**Step 2**  
Now, look at feet on other end of vibrator. If a gap exists between the mounting plate & foot, welding warped the mounting plate. Shim space under feet.



**Step 3**  
After gap has been filled with shim(s), insert & tighten the other TWO Grade 5 bolts.

| GRADE 5 BOLT SIZE | MAX TORQUE ft-lbs |
|-------------------|-------------------|
| 1/4"              | 9                 |
| 5/16"             | 18                |
| 3/8"              | 32                |
| 1/2"              | 78                |

For other bolt grades, please consult VIBCO.

Now put vibrator in place. Make sure it is secured tightly. Retighten bolts after first 10 to 15 minutes of operation and check periodically to maintain proper tightness. Damage to both bin and vibrator can occur if vibrator is not mounted securely. NOTE: no matter how thick the mounting plate, it can still warp during welding, especially if VIBCO's instructions are not followed.

### 8 RESTRAINT



**ALWAYS INSTALL SAFETY CABLE or CHAIN**  
Mount one end to the vibrator and the other to the hopper or bin **above** the vibrator **NEVER ATTACH TO THE MOUNTING PLATE!**

### 9 ELECTRICAL INSTALLATION

All VIBCO wiring kits contain necessary wires, switches and terminals needed for proper install of your DC vibrator.

Use the chart at the right to select the proper wiring kit and fuse needed.

**NOTE:** For salt & sand spreader mounts refer to our online instructions or call the factory for assistance



| MODEL NUMBER | WIRING KIT | FUSE  |
|--------------|------------|-------|
| DC-20        | WK-3       | 5 AMP |
| DC-50        | WK-3       | 5 AMP |
| DC-60        | WK-3       | 5 AMP |

**Battery voltage MUST match voltage of vibrator 12 or 24**

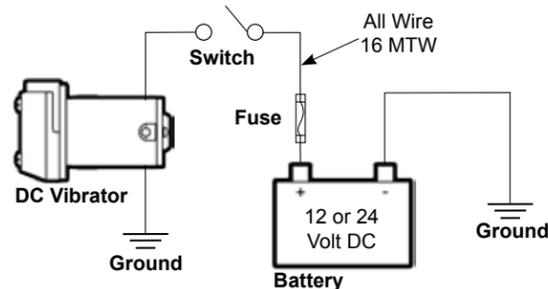
**Red or White** wire is the positive wire and connects to battery.

**Black** wire is the ground.

**Green** wire is NOT used.

**Switching lead wires on vibrator will reverse directional rotation of unit**

DC-20, DC-50, DC-60

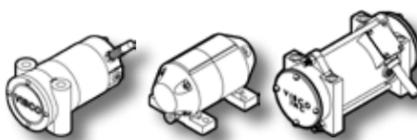


**In-line fuse strongly recommended for all DC vibrators to protect the unit & equipment**

Continued to next frame...



# VIBCO INSTRUCTION MANUAL



## DC 12 & 24 Volt DC Powered Vibrators

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### 10 ELECTRICAL INSTALLATION CONT.

All VIBCO wiring kits contain necessary wires, switches and terminals needed for proper install of your DC vibrator.

Use the chart at the right to select the proper wiring kit and fuse needed.



| MODEL NUMBER | WIRING KIT | FUSE   |
|--------------|------------|--------|
| DC-100       | WK-1       | 15 AMP |
| DC-200       | WK-1       | 20 AMP |
| DC-300       | WK-1       | 20 AMP |
| DC-450       | WK-2       | 25 AMP |
| DC-500       | WK-1       | 20 AMP |
| DC-700       | WK-2       | 25 AMP |
| DC-900       | WK-2       | 35 AMP |
| DC-1600      | WK-2       | 35 AMP |

**NOTE:** For salt & sand spreader mounts refer to our online instructions or call the factory for assistance



In-line fuse strongly recommended for all DC vibrators to protect the unit & equipment

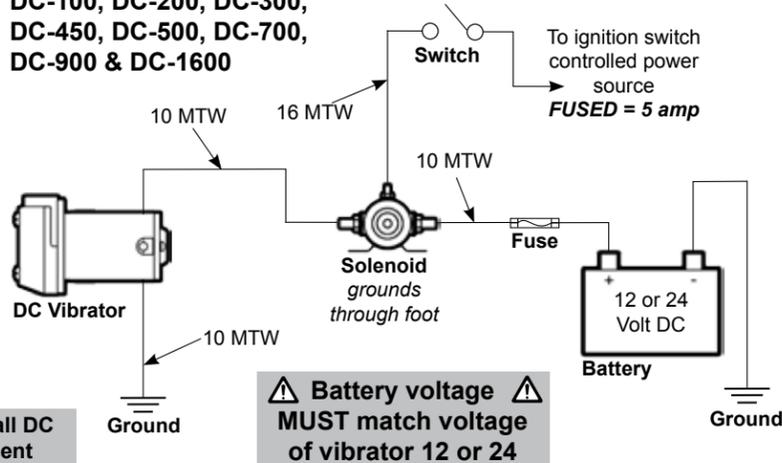
**Red or White** wire is the positive wire and connects to battery.

**Black** wire is the ground.

**Green** wire is NOT used.

**Switching lead wires on vibrator will reverse directional rotation of unit**

DC-100, DC-200, DC-300, DC-450, DC-500, DC-700, DC-900 & DC-1600

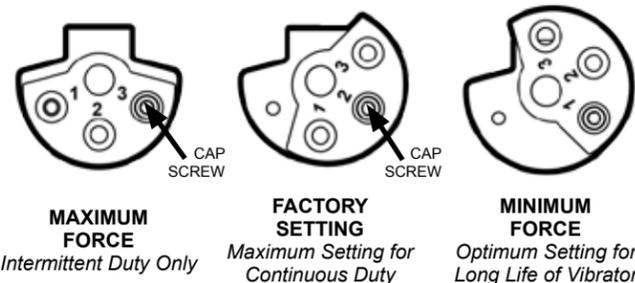


**⚠ Battery voltage MUST match voltage of vibrator 12 or 24**

800-633-0032 • vibrators@vibco.com • www.vibco.com

### 11 CHANGING OUTPUT FORCE

MODELS: DC-100, 200, 300, 900 & 1600



**MAXIMUM FORCE**  
Intermittent Duty Only

**FACTORY SETTING**  
Maximum Setting for Continuous Duty

**MINIMUM FORCE**  
Optimum Setting for Long Life of Vibrator

**NOTE:** If you INCREASE force of vibrator, you **MUST** take a new amperage draw reading to ensure vibrator is still operating within specified limits.

#### To change the force:

1. Remove end cover(s).
2. Remove the cap screw that holds the outer eccentric to the inner eccentric and turn the outer eccentric so that the numbered hole aligns with the threaded hole in the inner eccentric. **NOTE: You must set both ends of the vibrator to the same setting for models DC-200, -300, -900 & -1600.**
3. Replace the cap screw.
4. Replace end cover(s).

**NOTE:** ONLY RUN INTERMITTENTLY when set to higher than factory set output forces (maximum running time of 30 min. in any one hour period).

#### Warranty

All warranty claims must be submitted to VIBCO for approval prior to any repairs being done. Failure to do so will void any and all warranty coverage. All repairs will be done at the VIBCO factory.

#### Errors, Shortages & Complaints

Complaints concerning goods received or errors should be made at once. Claims must be made within five days after receipt of goods. Clerical errors are subject to correction. Damage during shipping must be reported to the carrier, not VIBCO.

#### Returning Parts \*\*

Parts should not be returned to VIBCO without prior authorization. Call VIBCO's customer service department at 800-633-0032 (800-465-9709 in Canada) for a Return Goods Authorization (RGA) number. A return authorization will be emailed or faxed to you. Use this as your packing slip. Return shipping must be prepaid. Material returned may be subject to a restocking fee. All returned shipments should clearly display your name, address and original invoice number to ensure proper credit.

**\*\* Orders for custom equipment built to customer's specifications are not returnable.**

### 12 DUTY CYCLE

All VIBCO 12 & 24 Volt DC vibrators are rated for either continuous, intermittent or limited intermittent.

The duty cycle must be determined in each particular application. A temperature test of the field casing

can help to determine the duty cycle. Temperature should not exceed 180° Fahrenheit. Longer duty cycles can considerably decrease brush life, and VIBCO's liability under the warranty does not cover duty cycles longer than those stated above.

**⚠ For continuous duty units be sure to use a continuous duty solenoid (VIBCO part number 1500PF56).**

| MODEL #                            | DUTY RATE    | RUN TIME                        |
|------------------------------------|--------------|---------------------------------|
| DC-20, 50, 60, 100, 200, 300 & 500 | CONTINUOUS   | UNLIMITED                       |
| DC-450T, 700, 900 & 1600           | INTERMITTENT | 30 min MAX in any 60 min period |

### 13 TROUBLESHOOTING

**1.) An unusual sound (banging) coming from the vibrator. This usually means that the mounting plate or channel is cracked, or the vibrator is loose.**

- Check the vibrator mounting bolts for tightness.
- Check the mounting for fatigue cracks.
- New installations may be too weak. Reinforce mount area immediately by adding "T" stiffeners-angle iron or channel iron check for fatigue cracks (see frame 6).
- In old installations look for cracks in mounting angle iron, plates and welds. Repair and reinforce immediately (see frame 6).

**2.) Vibrator doesn't start.**

- Make sure vibrator is getting power. Check fuses and make sure all connections are properly secured.
- Check that shaft spins freely by removing end cover(s) - if not re-shim.
- New installations should insure that the vibrator is properly grounded to the frame. If the vibrator is not mounted to the main frame, such as on a pivoted truck body, make sure the body is grounded to the main frame.
- Make sure push button or on/off switch and solenoid are in proper working order. If damaged or non-functioning, replace.
- Be sure mounting plate is properly shimmed for DC-200, -300, -900, -1600 (see frame 7).

**3.) Vibrator is running slow (loss of RPM).**

- Measure motor voltage. If less than 12 volts DC, wire size should be increased.
- Check brushes move freely in the brush holders. Change brushes if worn to less than 3/8". The life of the brushes is approximately 1,000 hours. The brush life is dependent on the duty cycle.

#### Product Changes

VIBCO reserves the right to make changes in pattern, design or materials when deemed necessary, without prior notice or obligation to make corresponding changes in previous models. To be sure of exact mounting dimensions, it is recommended that you obtain a certified dimensional drawing from the factory.

#### Ordering Spare Parts

Parts can be ordered through authorized distributors or from VIBCO's Spare Parts Department. The following data should be provided when placing your spare parts order:

- From label: Model number of unit.
- From spare parts list: Reference number, part number, description & quantity required.
- Shipping instructions: Specify shipping point and method of shipping.

**For custom mounting applications or any other questions:**

800-633-0032

or

vibrators@vibco.com



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