

VIBRATORS MOST COMMONLY USED ON SEPTIC TANKS & BURIAL VAULTS

PORTABLE & ELECTRIC: Model US-900 & US-1600 high frequency vibrators, up to 10,000 vibrations per minute. Easy 115 volt plug in, low amperage and can be plugged into any light outlet. US-900 is mounted on a wedge bracket model UW-2 (pages 2-5). The UWF female bracket is welded to the form (see mounting below). The US-1600 is mounted on a UW-3 wedge. The US-900 is used on standard septic tanks, US-1600 on larger ones.

IMPORTANT NOTE: High Frequency Electric Vibrators are intermittent duty units with a maximum "on" time per hour of 30 minutes. If vibration time extends beyond the duty time, use two units and leapfrog them from form to form.

The wedge brackets transfer vibration up to 90%. For 100% transfer use Model USL-900 & USL 1600 with lug bracket (see page 6 & 7). For Burial Vaults use Model USP-900 (page 9).

PORTABLE PNEUMATIC: For septic tanks use Model SVRWS-4000 Silent High Frequency Vibrator up to 11,000 VPM (page 3). This unit is recommended for the larger forms and CCW-2000 (page 3). Silent Pneumatic Vibrator is recommended for the smaller forms. CCW-2000 is prelubricated for life and the SVRWS-4000 needs to be lubricated from an oiler in the airline. For burial vaults use VSP-510 silent pneumatic turbine vibrator (see page 9).

PERMANENTLY MOUNTED VIBRATORS: Many concrete producers choose to mount the vibrator permanently on the forms to save time, lower labor cost, and reduce handling of the equipment and repair costs.

Suggested vibrators for permanent mountings are Electric Model US-900 for standard septic tanks and burial vaults. US-1600 in single phase or 2P-200 in 3 phase (page 16 & 17) or the pneumatic unit Model CCF-2000 for standard septic tanks and for the large ones Model SVRFS-4000 (page 14-15). For burial vaults use Model VSP-510 (page 9).

HOW & WHERE TO MOUNT THE VIBRATORS

QUESTION: Why can't I mount the vibrator to the skin of the form?

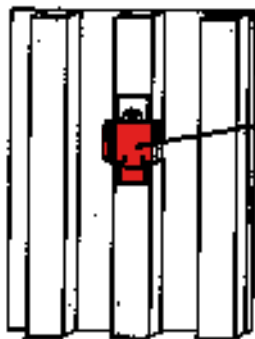
ANSWER: When you put a vibrator directly on the skin of the form, you create several problems.

1. You create an "oil canning effect." The movement of the skin actually draws air in, producing air holes.
2. The vibration energy is not distributed over form side but is concentrated just around the vibrator. This concentrated force will create fatigue cracks in the form skin and the vibration may actually tear out a piece of the form around the vibrator. The concentrated vibration energy also may cause segregation where the vibrator is mounted.

The correct way to mount the vibrators is on a stiffener to distribute the vibration energy or force over a larger surface as well as to prevent the "oil canning effect," reducing the problem of fatigue cracks.

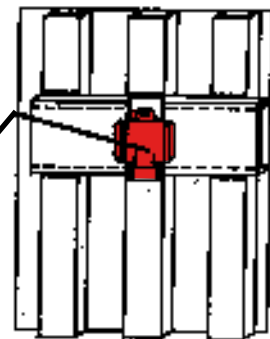
SUGGESTION #1

Acceptable Mount:
Mounting plate
parallel to stiffener



SUGGESTION #2

Preferred Mount:
Channel iron over
stiffeners



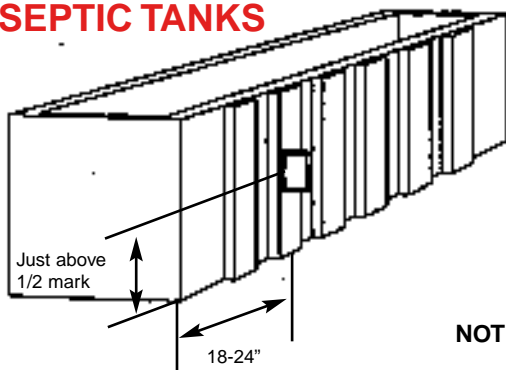
VIBRATOR

#2 preferred mount is better because:

1. An added stiffener is usually only tack welded to the skin of the form and if welds are not reinforced fatigue cracks may develop.
2. If you secure a channel iron over 3 stiffeners as in the preferred #2 mount, you are using stiffeners that are a rigid part of the form and the energy forces of the vibrator are used much more effectively.

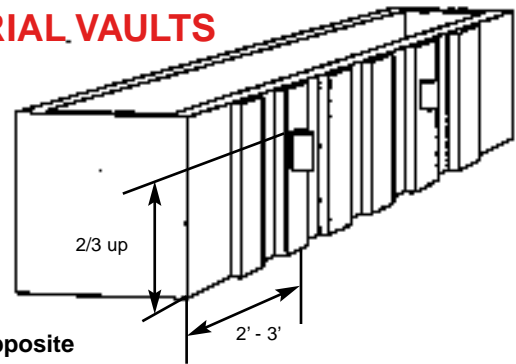
SEPTIC TANKS CONTINUED

SEPTIC TANKS



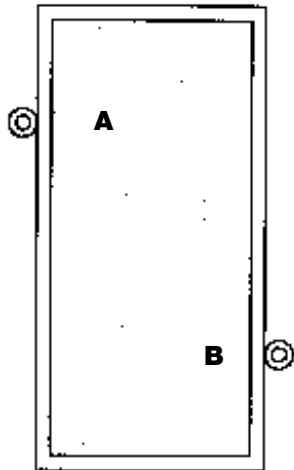
NOTE: 2nd vibrator bracket 180° opposite

BURIAL VAULTS

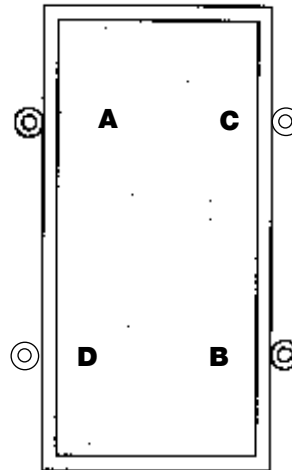


NOTE: 2nd vibrator directly opposite

STANDARD MOUNTING
2 Vibrators or Bracket Positions



STIFF MIX MOUNTING
4 Vibrators or Bracket Positions



TECHNICAL HINTS FOR VIBRATING SEPTIC TANKS AND BURIAL VAULTS

Some experimentation on the customer's part is always necessary because the end result is determined by the way the forms react to vibration transfer, the concrete mix, additives used, and the form oil. For casting septic tanks we recommend the use of two vibrators.

Start the pour as usual, and if a continuous and quick pour is planned, begin to vibrate when concrete is 6" above vibrator. If vibration is ample you should notice a leveling off of concrete and glossy surface and air bubbles rising to the surface. Continue vibrating for about a minute after pour is completed. If placement of concrete is intermittent then vibrate for 1 to 2 minutes more after each pour.

When the concrete has been thoroughly vibrated a glossy surface and few (if any) air bubbles bursting on the surface will appear.

TROUBLESHOOTING AND CORRECTIONS AFTER YOU STRIP FORM.

1. Separation of aggregate (too long vibration time or too much water in mix).
2. Bleeding of cement and water (tighten seals in form or use less water).
3. Honeycomb (often from bleeding, but if not, increase vibration time. If honeycomb on lower surface, move one vibrator lower and tighten seals).
4. Small pinholes in finish (often difficult to determine cause). Usually from: too wet mix; air entering, or other additives; possibly from form oil, or boiling in of air from action of form where form wall is too flimsy and flexes too much, weld on stiffeners to form wall).
5. Larger pinholes – if all over, try reducing water content, vibrating longer after pour, adding additional vibrator, or re-vibration before initial set.



DID YOU KNOW?

Use VIBCO vibrators with all concrete to ensure the best results.

BURIAL VAULTS

Model VSP-510 Rotary Piston Vibrator used on Burial Vault (page 9). Same wedge brackets and vibrators as on septic tanks can also be used. Wedge brackets give a 90-100% vibration transfer. Pin brackets 60-75%.



SEPTIC TANKS, BURIAL VAULTS & CULVERTS CONTINUED



Burial Vault form with VSP-510 Rotary Piston Vibrator.



Model US-1600 permanently mounted on 5500 lb. mold.



Model US-450 on wedge-bracket for vibrating lid on burial vault form.



Silent pneumatic turbine model VS-510 on wedge bracket on well liner form.



Portable US-900 on UW-2 wedge bracket for multiple septic tank forms.



US-1600 with wedge on culvert form. (Notice a rubber sheet covers vibrator and protects it from concrete spill.)

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 VIBCO's #1 distributor
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 (800) 633-0032

