COUGAR
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HYDRAULIC AND AIR VIBRATOR

Installation and Operating Instructions

IMPORTANT

Read Carefully

THE LOCATION AND RIGIDITY OF THE MOUNTING OF YOUR VIBRATOR ARE THE MOST IMPORTANT THINGS YOU MUST CONSIDER. THE MORE RIGID AND FIRM THE MOUNT, THE MORE EFFECTIVE AND EFFICIENT YOUR VIBRATOR WILL BE. A WEAK MOUNT WILL HAMPER THE DISTRIBUTION OF VIBRATION, LOWER YOUR VIBRATOR'S EFFICIENCY AND POSSIBLY RESULT IN VIBRATOR FAILURE AND/OR BIN FATIGUE.

BINS, HOPPERS, CHUTES, ETC. ALL REQUIRE A REINFORCING BEAM, CHANNEL, OR PLATE TO LESSEN THE POSSIBILITY OF AN ELECTRICAL OVERLOAD ON YOUR VIBRATOR.

FROM THE FOLLOWING DESCRIPTIONS AND DRAWINGS SELECT THE ONE THAT MOST CLOSELY DESCRIBES YOUR STRUCTURE.

VIBRATOR LOCATIONS FOR DIFFERENT BIN DESIGNS

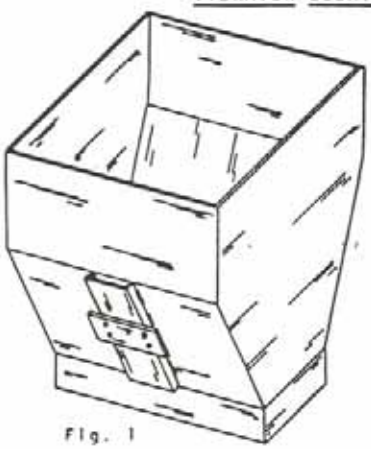


Fig. 1

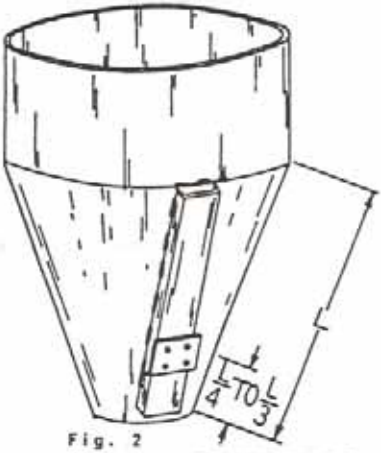
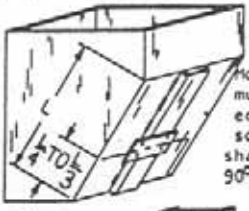


Fig. 2

Fig. 3



IMPORTANT
Mounting plate must be positioned on channel so that vibrator shaft is always 90° to length of channel

Fig. 4
Structural channel
(See Chart Page 5)

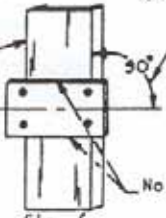


Fig. 6

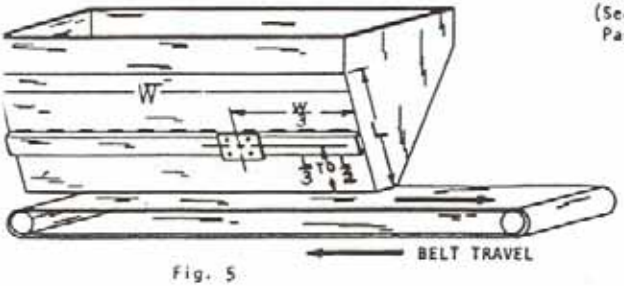
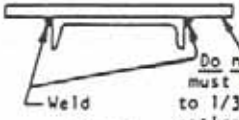


Fig. 5



Do not warp.. must be flat to 1/32" across entire face of plate.

Fig. 7

ur Vibrator should be mounted on the center line of the side with the ast slope, about 1/4 to 1/3 of the distance from the outlet to the p of the sloped side on a reinforcing channel. If your bin or hopper s one vertical side the vibrator must be mounted on the slope side posite the vertical side.

TWO BIN INSTALLATION

Although it is not recommended it is possible, in some applications, to vibrate two bins with one vibrator. Follow reinforcing section carefully and tie bins together with heavy channel or "I" beam, gusset as shown on drawing, or normal length of channel used for vibrator with 1/2 force of vibrator used for both bins.

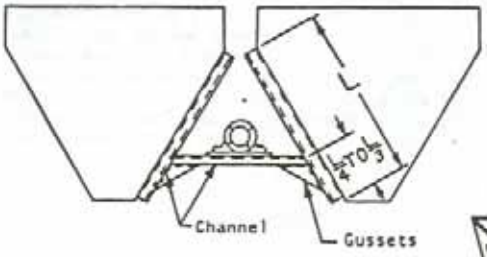


Fig. 8

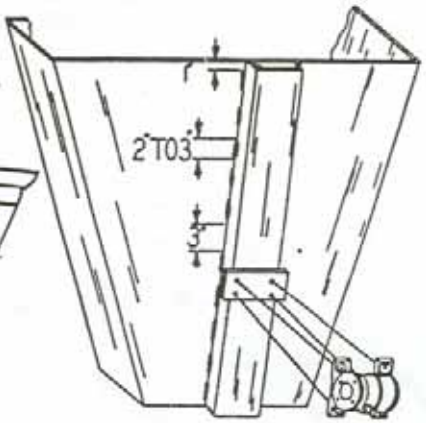


Fig. 10

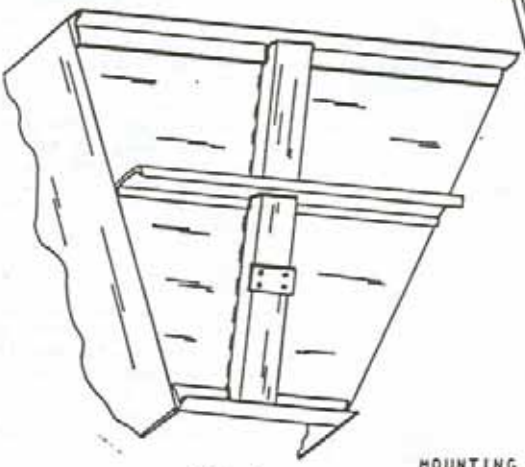


Fig. 9

IMPORTANT

MOUNTING PLATE SHOULD BE MOUNTED SO THAT THE VIBRATOR SHAFT IS AT RIGHT ANGLES TO THE LENGTH OF THE CHANNEL.

A channel of recommended weight and size (Page 5) should be welded on the sid with the least slope. Weld the legs of the channel to the bin wall, using skip welds (Fig. 10). Welds should be 2" to 3" long with a 3" skip. Do not weld any closer than 1" from the end of the channel. If your bin has a frame at the top and/or bottom you should weld solidly to this frame (Fig. 9). The Vibrator mounting plate is then welded Fig. 6 & 7 to this channel. All welding should be done with normal mild steel rod when attaching mounting assembly to mild steel structures. These same structural mild steel channels can be welded to a stainless steel hopper wall by using a rod of the same type stainless as the hopper wall.

WOOD BINS AND HOPPERS

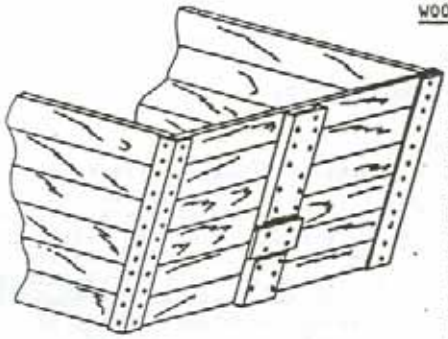


Fig. 11

Wood bins and hoppers are harder to vibrate and require more force and amplitude than similar steel structures. Your Vibrator should be mounted on the side with the least slope about 1/4 to 1/3 of the distance from the outlet to the top of the slope side. A steel channel or plate of recommended size must be bolted directly to the planking with 5/8" or 3/4" carriage bolts. Use plenty of bolts, two or three to each plank depending upon plank width. Because wood dampens vibration it may be advisable to bolt thru to a flat steel plate inside the bin, which will transmit the vibration to the contents.

CONCRETE BINS AND HOPPERS

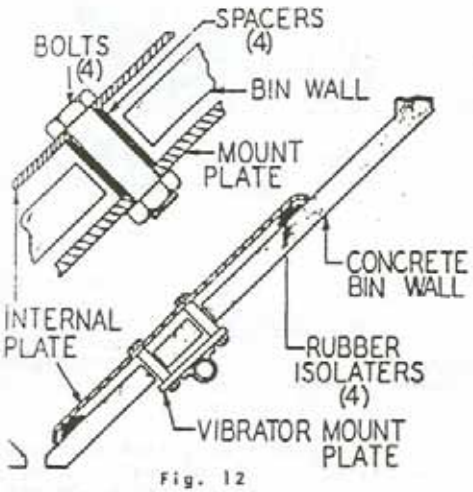


Fig. 12

The problem of vibrating concrete structures may be solved by mounting a steel plate inside the bin and vibrating it. As a rule the internal plate should be large and placed in a position that when the vibrator is mounted the center of the plate, the vibrator will be in the lower 1/3 of the bin on the slope side. The internal plate should be suspended on four rubber insulators to keep the plate from vibrating against the inside wall. The edges of the plate should be bent down toward the bin wall to keep material from accumulating under it. Four holes, larger than the spacer's diameter, are cored thru the bin's wall. The four cored holes must match the 4 holes drilled in the center of the internal plate. Spacers are cut longer than the thickness of the bin wall and a heavy vibrator mounting plate is bolted to the internal plate thru the bin wall. The Vibrator is then mounted to the outside plate.

Fig. 13

DISCHARGE CHUTES ON BINS AND HOPPERS

You can connect the discharge chute to the slope side reinforcement, where your Vibrator is mounted, with channel or strap. This will transmit vibration to both and keep materials flowing.

MAXIMUM AVAILABLE FORCE POUNDS	MINIMUM HOPPER WALL THICKNESS[a]	CHANNEL LENGTH	MOUNTING PLATE THICKNESS	CHANNEL SIZE AND WEIGHT
200	12 Ga.	18" to 24"	1/2"	4" Channel 5.4 Lbs. per ft.
400	1/8"	20" to 26"	1/2"	4" Channel 5.4 Lbs. per ft.
900	3/16"	36" to 48"	1/2"	4" Channel 5.4 Lbs. per ft.
1800	1/4"	54" to 60"	3/4"	10" Channel 25 Lbs. per ft.
3600	3/8"	60" to 72"	1"	10" Channel 25 Lbs. per ft.
5400	1/2"	72" to 84"	1 1/4"	

[a] If hopper or bin wall is too thin, use two smaller vibrators equal in force to one large vibrator.

BOLTING VIBRATOR TO MOUNT

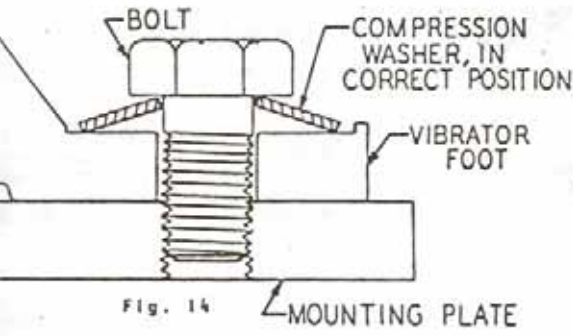


Fig. 14

Before placing vibrator on the mount, make certain the mount surface is free of dirt, grease, weld slag and splatter It is important to install compression washer properly - with center cone next to the bolt head (See Figure 14), then draw the bolts down until tight with the compression washer flattened. Check bolts periodically for tightness.

**** N O T E ****

CRADLE LUG SERIES VIBRATORS MUST BE PERIODICALLY TIGHTENED TO NOT MORE THAN 130 FT. LBS. MAXIMUM, AND NOT LESS THAN 90 FT. LBS. MINIMUM.

ECCENTRIC ADJUSTMENT

Maximum force on high numbers, mimimum is settinn #1.

Factory set at No. 2.

Adjustment Procedure For AC3-3500, AA5-5000, HC3-3500

Note: All foreign material must be kep out of vibrator assembly.

1. Remove the face plate and motor assembly (Item No. 1).

2. Remove the end cap (Item No. 2).

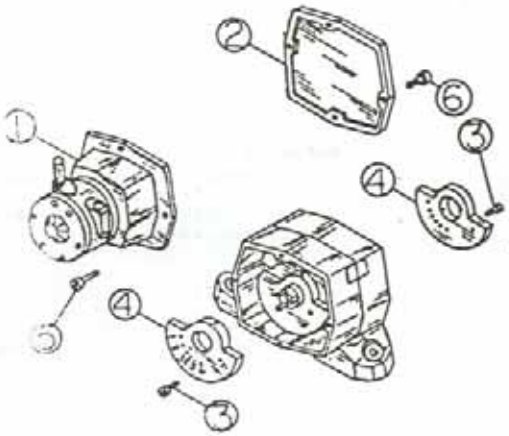


FIG. 16

3. Remove the adjustment screw (Item No. 3) from both adjustment weight.

Relocate the adjustment screw for th desired setting, making sure that both adjustment weights (Item No. 4) are set at the same setting. Then tighten the adjustment screws until they are secure.

4. Install the face plate and motor assembly.

Be careful to engage the pin drive coupling correctly by rotating the weight and sahft assembly from the end cap side of the vibrator head, until the pins slip into the drive holes.

DO NOT FORCE ASSEMBLY!

5. Tighten the face plate screws until they are secure.

CAUTION: THERE MUST BE NO PRESSURE, OR IMPACT PUT ON THE MOTOR SHAFT DURING ASSEMBLY!

6. Install the end cap and gasket. Tighten the end cap screw (Item No. 6) until they are secure.

NOTE: H9-500 is non-adjustable.

HA9-1600, HA5-5000 are pin type adjustments.

C A U T I O N !

A. When connecting a hydraulic vibrator to a hydraulic system.

1. Be certain to hook the Pressure line to the motor port marked "IN".

IMPORTANT

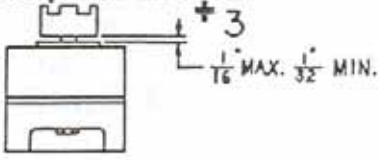
2. The vibrator must be protected from over-reving by keeping the G.P.M. at, or below, the rated flow. Refer to the name plate or literature for maximum allowable G.P.M.
3. The vibrator must be protected from pressure surges above 2000 PSI.

4. The oil to the vibrator must be filtered with a ten micron, or better, oil filter.

B. When replacing a coupling jaw or hydraulic motor.

1. The motor attaching bolts should be torqued 15 Ft. Lb. Maximum and 10 Ft. Lb. Minimum.

2. No impact or thrust load should be put on the motor shaft.



3. The space between the coupling jaw face and the motor face should be 1/16" Maximum and 1/32" minimum.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD LEAD TO PREMATURE FAILURE AND COULD VOID THE WARRANTY.

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LUBRICATION

All models are equipped with pre-lubricated bearings. No further lubrication is necessary for the life of the bearings.

AIR MOTOR LUBRICATION

CAUTION: MOTOR COULD PREMATURLY FAIL IF INSTRUCTIONS ARE NOT FOLLOWED.

1. Pour small amount of air motor lubricant into the inlet port port before connecting air supply to the motor.

   * Lubricate with SAE #10 Detergent oil*

2. The air supply for the motor must be clean, dry, and have lubricator attached as close to the motor as convenient, preferably not longer than 10 Ft. Oil injection rate should be approximately one drop for every 50 to 75 CFM of air going through the motor.

3. Servicing: If the motor becomes sluggish, flush it with non-flamable solvent, by disconnecting the air line and the muffler and putting several teaspoons of solvent into the motor. Then rotate the motor manually in both directions for a few minutes. Reconnect the air line and slowly apply pressure until there is no trace of solvent in exhaust air. Flush in a well ventilated area, and use eye protection. Relubricate the motor with a squirt of oil in the chamber beofre resuming normal operation.

TROUBLE SHOOTING

1. An unusual sound (Pounding) coming from the vibrator usually means that the mount is cracked or the vibrator bolts have loosened.

WE HAVE ATTEMPED IN THESE INSTRUCTIONS TO STRESS THE IMPORTANCE OF MOUNTING. FOLLOW THEM CLOSELY TO INSURE LONG LIFE AND EFFICIENT OPERATION. IF YOU HAVE ANY QUESTIONS CONCERNING YOUR NEW VIBRATOR CONTACT THE FACTORY OR YOUR NEAREST DEALER.