

Vibrolator® Ball Vibrator Installation Instructions



⚠ DANGER

Before installing equipment, turn off and lock out/tag out all energy sources to the hopper, conveyor, and/or conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

1. Turn off and lock out/tag out energy source according to American National Standards Institute (ANSI) z244.1-1982 and Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910.
2. Make sure mounting surface and vibrator are clean and free of debris.
3. See Figure 1. Locate vibrator in lower 1/4 to 1/3 of structure slope length. If second vibrator is needed, mount 180 degrees from first vibrator and halfway up slope.

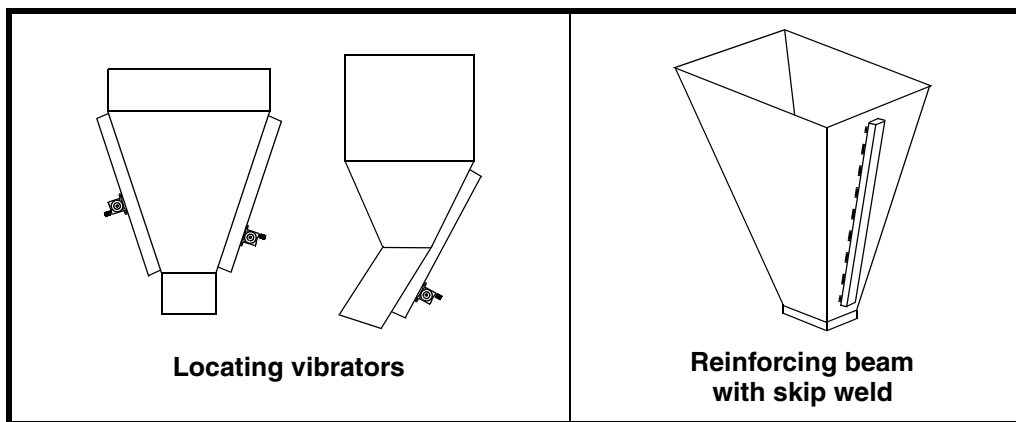


Figure 1. Locating Vibrators and Reinforcing Beams on Hoppers

Table I. Reinforcement Channel Selection

Model	Channel Size	
	Inch	Metric
ABU- 06, 13, 19, 25 ABF- 10, 13, 19, 25 ABL- 10, 13, 16, 19, 25	C3 x 5 lbs/ft	75 x 40 (5.9 kg/m)
ABU- 25, 32, 38, 44 ABF- 25, 35, 41, 51	C4 x 5.4 lbs/ft	100 x 50 (8.3 kg/m)

⚠ CAUTION

If reinforcing beam is not skip welded, hopper may be damaged by operating vibrator.

4. Install reinforcing beam to strengthen chute wall (see Figure 1). Skip weld beam in place: Weld 3 in. (76 mm) then skip 2 in. (51 mm). Repeat for entire perimeter of beam. Do not weld last 1 in. (25 mm) of either end of beam or any corner. Make sure beam extends at least 3/4 the length of structure from top to bottom.
5. Install mounting plate. Skip weld in place. (Mounting plate should be at least the size of vibrator base.)
6. Install vibrator onto mount using new cap screws, compression washers, and lock nuts. See Figure 2 for mounting bolt sizes and torque requirements.

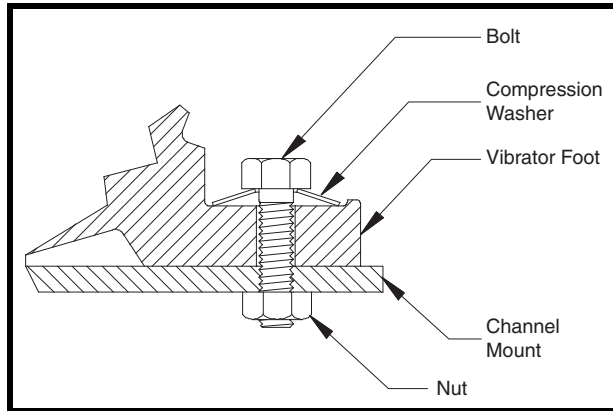


Figure 2. Bolt Torque Specifications

Vibrator Model	Bolt Size	Dry	Lubricated
ABU- 06, 10 ABF- 10	1/4"-20	100 in-lbs	75 in-lbs
	M6	10.5 N•m	7.9 N•m
ABU- 13, 19 ABL- 13, 16, 19 ABF- 13, 19, 41, 51	3/8"-16	31 ft-lbs	23 ft-lbs
	M8	25.5 N•m	19.1 N•m
ABU- 25, 32 ABL- 25 ABF- 25, 35	1/2"-13	75 ft-lbs	57 ft-lbs
	M10	50.5 N•m	37.8 N•m
ABU- 38, 44	5/8"-11	266 ft-lbs	200 ft-lbs
	M16	226 N•m	170 N•m

IMPORTANT

Lubricated air must be used to ensure proper operation of the vibrator/impactor. Set lubricator to deliver 1–2 drops of oil per minute. Use Martin® Air Motor Oil or an equivalent, such as spindle oil ISO 22 or SAE No. 10 non-detergent oil.

7. Run a lubricated air line (supplied by the customer) to the intake on the vibrator as follows. (See Table II for recommended pipe sizes.).
 - a. See Figure 3. Connect air line to ball valve (A) and Filter/Regulator/Lubricator (FRL) Kit (B). Set lubricator to deliver 1–2 drops of oil per minute.

WARNING

Wire control box and solenoid in accordance with National Electrical Code Article 430. Have wiring installed by a qualified electrician only.

- b. If using, connect power to control box (C) and solenoid valve (D).
- c. Connect air to vibrator. A section of flexible hose (F) should be used to keep from transmitting vibration to the rigid pipe.

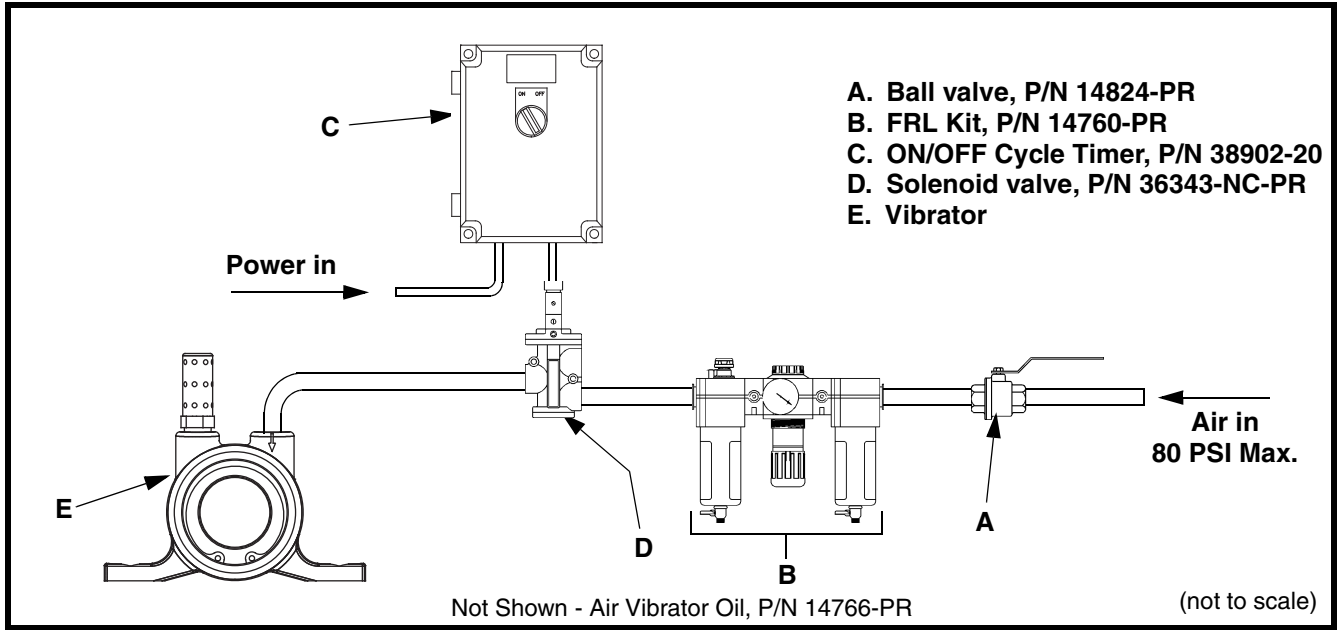


Figure 3. Connecting Air Lines to Vibrator

Plumbing Specifications				
Model	Minimum Hose Diameter		Inlet Port Thread	Exhaust Port Thread
	Inch	Metric		
ABU- 06,13 ABF- 10, 13 ABL- 10, 13	1/4"	6 mm	1/8" NPT	1/8" NPT
ABU- 19, 25 ABF- 19, 25, 35 ABL- 16, 19, 25	3/8"	10 mm	1/4" NPT	1/4" NPT
ABU- 32, 38 ABF- 41, 51	1/2"	12 mm	3/8" NPT	3/8" NPT
ABU- 44	3/4"	19 mm	1/2" NPT	1/2" NPT

Table II. Recommended Pipe Size for Compressed Air Flow to 125 psi (8.62 bar)

Air Volume cfm (cls)	Pipe Length—ft (m) Nominal Pipe Diameter								
	25 (8)	50 (15)	75 (23)	100 (31)	150 (46)	200 (61)	300 (92)	500 (152)	1000 (305)
6 (2.8)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4
18 (8.5)	1/2	1/2	1/2	3/4	3/4	3/4	3/4	1	1
30 (14.2)	3/4	3/4	3/4	3/4	1	1	1	1-1/4	1-1/4
45 (21.3)	3/4	3/4	1	1	1	1	1-1/4	1-1/4	1-1/4
60 (28.3)	3/4	1	1	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
90 (42.5)	1	1	1-1/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	2
120 (56.6)	1	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	2	2
150 (70.8)	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	2	2	2	2-1/2
180 (85)	1-1/4	1-1/2	1-1/2	1-1/2	2	2	2	2-1/2	2-1/2
240 (113.3)	1-1/4	1-1/2	1-1/2	2	2	2	2-1/2	2-1/2	3
300 (141.6)	1-1/2	2	2	2	2	2-1/2	2-1/2	3	3
360 (170)	1-1/2	2	2	2	2-1/2	2-1/2	2-1/2	3	3

8. Start vibrator.
9. After 1 hour of operation, retighten mounting bolts.

Weekly Maintenance

1. Turn off and lock out/tag out energy source according to ANSI standards (see “Installation”).
2. Make sure fasteners are tight. Tighten if necessary.
3. Check filter for clean/dry air.
4. Check lubricator. Fill as needed with air vibrator oil, part number 14766, and reset to 1-2 drops per minute.

Troubleshooting

Symptom	Corrective Action
Vibrator does not come up to speed.	Check air supply for cfm. Check air filter to insure there are no restrictions. Check muffler to insure there are no restrictions. Check mount for loose fit and/or broken welds.
Excess noise	Check mount for loose fit and/or broken welds.

Part Numbers

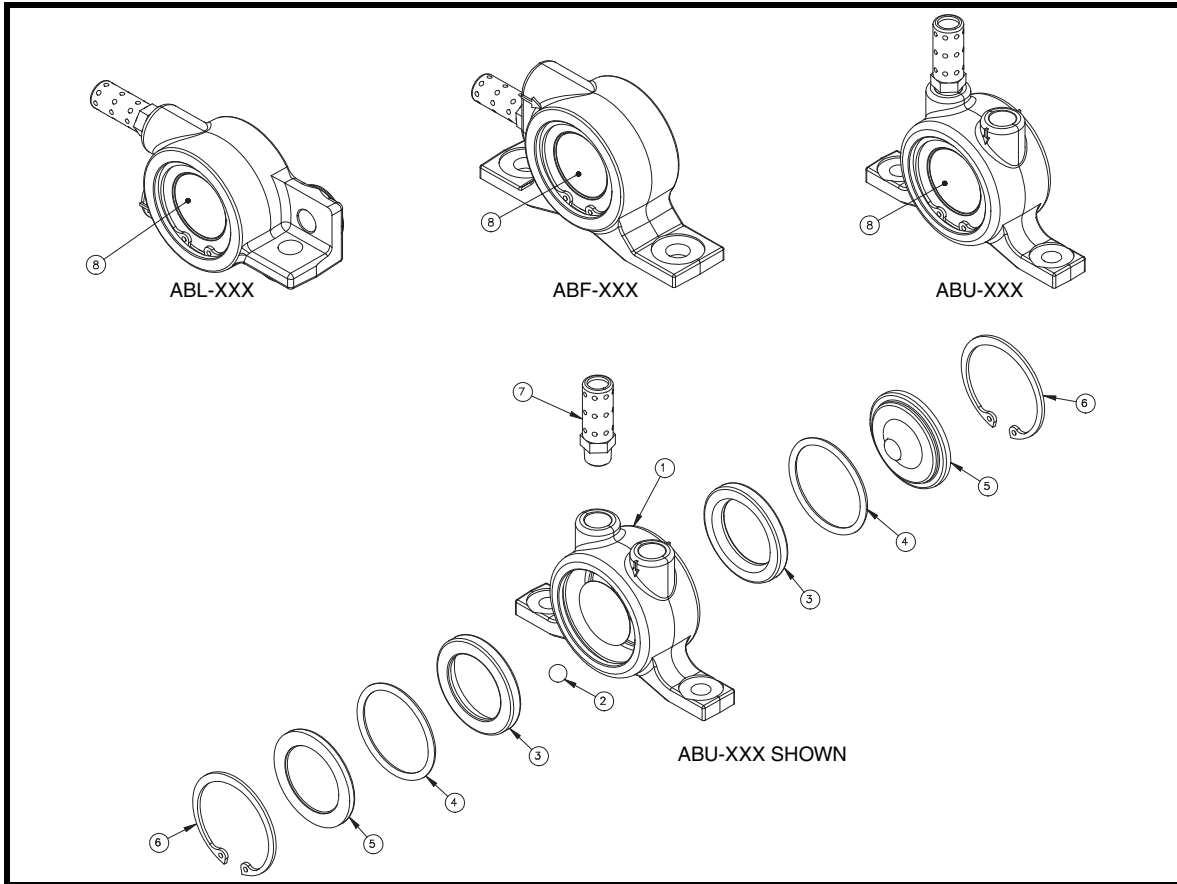


Figure 4. Vibrolator® Ball Vibrators

Item	Description	Part Number	Qty
1	Housing	Table III	1
2	Ball	Table III	1
3	Ball Race	Table III	2
4	O-Ring	Table III	2
5	End Cap	Table III	2
6	Snap Ring	Table III	2
7	Muffler	Table III	1
8	Label for ABU-XXX	CG-100331-XX*	2
8	Label for ABF-XXX	CG-100330-XX*	2
8	Label for ABL-XXX	CG-100343-XX*	2
9 (NS)	Operator's Manual	M3884	1
10 (NS)	Tag Loud Noise Warning	34070	1
11 (NS)	Cable Tie Nylon	30916	1

NS = Not Shown *XX indicates vibrator size.

Table III. Vibrolator® Ball Vibrator Part Numbers

Assembly Part No.	Part No. Item 1	Part No. Item 2	Part No. Item 3	Part No. Item 4	Part No. Item 5	Part No. Item 6	Part No. Item 7
ABU-06X	110308	607-01	38918	603000	130184	530400	210314
ABU-13X	110300	1307-01	38919	603001	130185	530401	210314
ABU-19X	110294	1907-01	38920	11640	130186	530402	210315
ABU-25X	110297	2507-01	38921	603003	130188	530403	210315
ABU-32X	110296	3207-01	38921	603003	130188	530403	210316
ABU-38X	110302	3807-01	38925	603012	130213	530404	210316
ABU-44X	110304	4407-01	38922	603004	130181	530408	210317

ABF-10X	110225	11450-01	38918	603000	130184	530400	210314
ABF-13X	110227	1307-01	38919	603001	130185	530401	210314
ABF-19X	110229	1907-01	38920	11640	130186	530402	210315
ABF-25X	110233	2507-01	38921	603003	130188	530403	210315
ABF-35X	110233	11520-01	38921	603003	130188	530403	210315
ABF-41X	110235	11697-01	38922	603004	130181	530408	210316
ABF-51X	110235	11698-01	38922	603004	130181	530408	210316

ABL-10X	110226	11450-01	38918	603000	130184	530400	210314
ABL-13X	110228	1307-01	38919	603001	130185	530401	210314
ABL-16X	110230	11464-01	38920	11640	130186	530402	210315
ABL-19X	110230	1907-01	38920	11640	130186	530402	210315
ABL-25X	110232	2507-01	38921	603003	130188	530403	210315

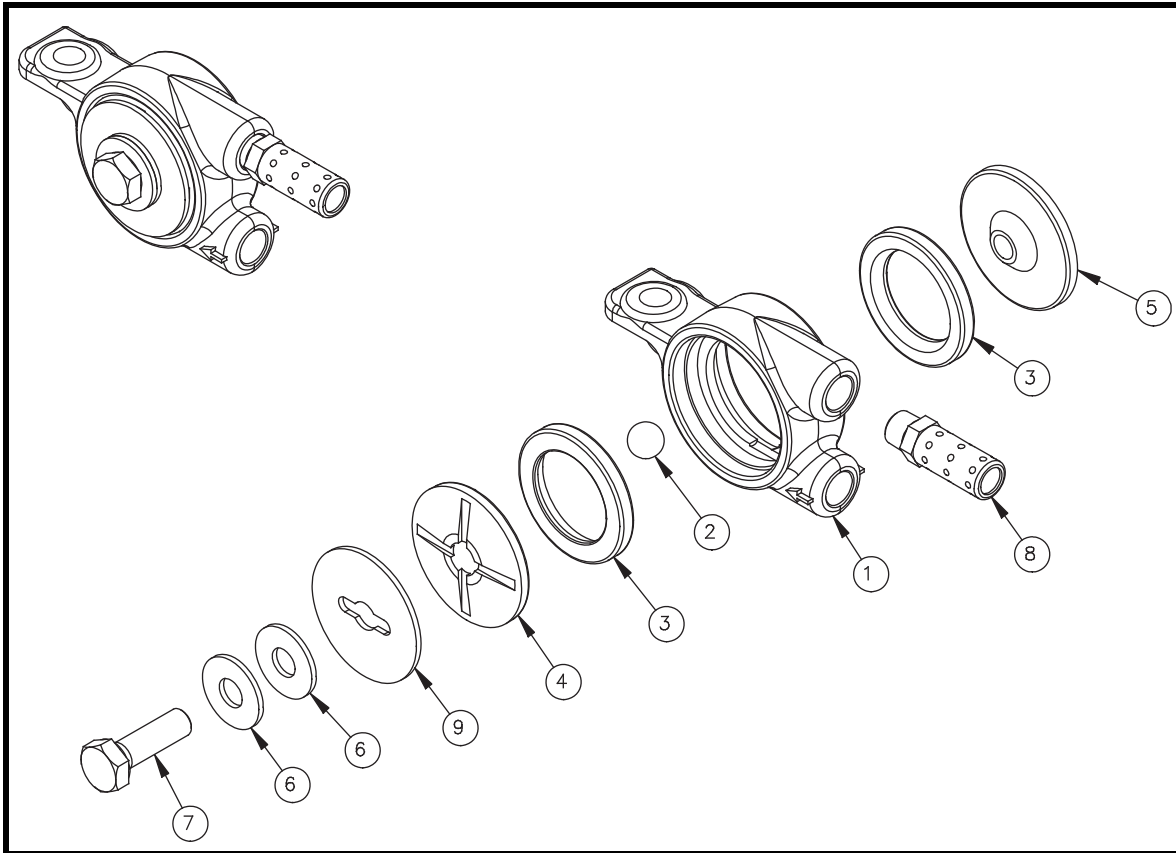


Figure 5. Vibrolator® Ball Vibrator, Model ABL-10A

Item	Description	Part Number	Qty
1	Housing	24189	1
2	Ball	11450-01	1
3	Ball Race	1056A	2
4	Front Cap	12405	2
5	Back Cap	10331	2
6	Washer Compression 5/16	31401	2
7	Screw HHC 5/16-24NF x 1	11451	1
8	Muffler	210314	2
9	Label	CG-100343-10A	2
10 (NS)	Operator's Manual	M3884	1
11 (NS)	Tag Loud Noise Warning	34070	1
12 (NS)	Cable Tie Nylon	30916	1

NS = Not Shown

**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001:2008 =**

Form No. M3884-03/19

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